SFCTA Contract Number 99/00-7

SOUTH ACCESS TO THE GOLDEN GATE BRIDGE

DOYLE DRIVE

HISTORIC PROPERTY TREATMENT PLAN FOR THE BUILT ENVIRONMENT

San Francisco County, US101 KP 12.8-15.7 (PM 8.0-9.8) / SR1 KP10.9-11.4 (PM 6.8-7.1), EA 04-163700

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SECTION 1: INTRODUCTION

The Federal Highway Administration (FHWA), the California Department of Transportation (Caltrans), and the San Francisco County Transportation Authority (SFCTA) propose to replace Doyle Drive, located in the Presidio of San Francisco, within the National Park Service–Golden Gate National Recreation Area (NPS–Golden Gate) and the City and County of San Francisco (Undertaking). The Undertaking consists of replacing the existing facility with a new 1.5-mile-long six-lane facility and an eastbound auxiliary lane, between the toll plaza for the Golden Gate Bridge on the west, and the east end of Doyle Drive where it splits and feeds into Richardson Avenue and Marina Boulevard.

This Undertaking will adversely affect historic properties listed in or eligible for the National Register of Historic Places (NRHP), including the Presidio National Historic Landmark District (PNHLD) and its contributing historic resources; individually eligible Doyle Drive and its two individually eligible viaducts; and the Golden Gate Bridge due to the loss of Doyle Drive, which is a contributing element to the bridge. The analysis of these effects can be found in the *Finding of Effect for the South Access to the Golden Gate Bridge Doyle Drive Project, San Francisco, California* (SFCTA, December 2005) and the *Addendum Finding of Effect for the South Access to the Golden Gate Bridge Doyle Drive Project, San Francisco, California* (SFCTA, February 2007).

Consequently, the FHWA has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) pursuant to 36 Code of Federal Regulations (CFR) 800, regulations implementing Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S. Code 470f) and with the Secretary of the Interior pursuant to 36 CFR 800.10 with regards to special requirements for protecting National Historic Landmarks. The Secretary has delegated authority for the purposes of commenting on the Undertaking to the National Parks Service. The Presidio Trust (Trust), as the federally appointed land manager for the areas of the Presidio within the Undertaking's designated areas of potential effect (APEs), has been consulted. The United States Department of Veterans Affairs (VA) has also been consulted because the San Francisco National Cemetery is within the architectural APE.

The FHWA has developed a Programmatic Agreement (PA) among the consulting parties, pursuant to 36 CFR 800.14, following guidance for the resolution of adverse effects resulting from this Undertaking, pursuant to 36 CFR 800.6. The PA outlines the treatment of historic properties that will be affected by the Undertaking. It includes stipulations that the FHWA prepares two historic property treatment plans: one plan to encompass treatments for impacts on archaeological resources and one to identify treatments for effects on the built environment and cultural landscape. These treatment plans describe the work that needs to be conducted prior to construction, during construction, and after construction. Caltrans and the SFCTA and their consultants will perform the prescribed work.

The Built-Environment Treatment Plan (BETP) provides detailed descriptions of measures developed to minimize and/or mitigate adverse effects to contributing buildings, structures, and elements of the PNHLD cultural landscape, and the Golden Gate Bridge that will be adversely affected by the Undertaking. It also includes descriptions of measures that will be taken to protect historic properties and to avoid unanticipated adverse effects to historic properties. The BETP establishes protocol regarding preparation of recordation and documentation to Historic American Building Survey/Historic American Engineering Record/Historic American Landscape Survey (HABS/HAER/HALS) standards and the preparation of Historic Structure Reports (HSRs). The BETP also describes specific and appropriate levels of investigations, preparations, and treatment measures that will be undertaken by Caltrans and SFCTA and their consultants prior to construction, during construction and after construction. These include conditions assessments; vibration analysis; requirements for the moving, storing, shoring,

stabilizing, monitoring, and rehabilitation of buildings; and the rehabilitation of cultural landscape features and areas. Also described are provisions for architectural criteria, protection/avoidance measures, responses to inadvertent damage, deconstruction and salvage procedures, and a public interpretation program.

Because the PA was executed in November 2008, detailed Undertaking plans have been developed and continue to be developed. Consequently, some additional mitigation has been identified as necessary, specifically the addition of several buildings to be assessed for pre-construction conditions. A discussion between Caltrans and the SHPO's office resulted in the decision that, because no mitigation would be eliminated, the BETP should reflect the addition of this work despite the fact that the identified buildings will be inconsistent the list provided as an attachment to the PA. A list of buildings that will be assessed can be found in Section 7.2 of this BETP. Caltrans also discussed this with the Trust, and the Trust agreed that this was an acceptable approach. Additionally, since the PA was executed, an update to the PNHLD was prepared and four additional buildings were determined to be eligible. Three buildings, Buildings 644, 649, and 924, are within the architectural APE. Buildings 644 and 924 are sufficiently distant from the Undertaking to not require pre-construction condition assessments; Building 649 is closer and will therefore be assessed for its pre-construction condition. Any changes to the Undertaking occurring subsequent to the final BETP that necessitate changes to avoidance or mitigation plans will be reflected in the Mitigation Implementation Plan (MIP, see Section 4.4).

Per Stipulations 1.A, B of the PA, for actions involving resources under the Trust's management, Caltrans, SFCTA, and the Trust will coordinate efforts regarding the review and approval of the qualifications of individuals and firms considered to carry out terms of the PA and participate in all source-selection boards for selecting contactors; participate in the development of all contract scopes, contract modifications, and technical reviews of deliverables; and have a primary role in all NRHP-eligibility determinations. Per Stipulation 1.C, the NPS–Golden Gate will also be afforded the opportunity to review and comment on all deliverables regarding properties within the PNHLD and have a role in NRHP-eligibility determinations. For properties outside of the Presidio, namely the Golden Gate Bridge and the Palace of Fine Arts, resourcing efforts will be coordinated between Caltrans and SFCTA, with approval of the Golden Gate Bridge Highway and Transportation District and San Francisco Recreation and Parks Department, respectively. Efforts involving the San Francisco National Cemetery, if necessary, will be coordinated between Caltrans and SFCTA with approval of the VA, the federal land manager of the cemetery.

Persons who meet or exceed the Secretary of the Interior's professional qualifications standards (48 CFR 44738–9) will carry out, or directly supervise, all activities regarding history and architectural history. Professionals with appropriate demonstrable experience will carry out activities that need additional levels of expertise, such as vibration analysis, structural conditions assessments, the moving of a historic building, or the recordation of landscape features.

SECTION 2: DESCRIPTION OF THE UNDERTAKING

2.1 PROJECT LOCATION

Doyle Drive is located in the Presidio of San Francisco, in the northern part of the City of San Francisco at the southern approach to the Golden Gate Bridge. In 1994, when the U.S. Army transferred jurisdiction of the Presidio to the NPS, it became part of the NPS–Golden Gate. In 1996 management of the Presidio was divided between two federal agencies: the Trust, the agency responsible for oversight of 80% of the Presidio delineated as Area B; and NPS–Golden Gate, which is responsible for management of the coastal portions of the park (the remaining 20%), delineated as Area A. The VA manages the San Francisco National Cemetery, which is within Area B of the Presidio. Doyle Drive lies within the Area B lands managed by the Trust with a small portion at the western end on land operated by the Golden Gate Bridge Highway and Transportation District (GGBHTD). The Presidio was designated a National Historic Landmark (NHL) in 1962; in the 1993 NHL update Doyle Drive was determined to be a contributing element to the PNHLD (National Park Service 1993).

Doyle Drive, the southern approach of Route 101 to the Golden Gate Bridge, is 1.5-miles long with six traffic lanes. There are three San Francisco approach ramps which connect to Doyle Drive: one beginning at the intersection of Marina Boulevard and Lyon Street, one at the intersection of Richardson Avenue and Lyon Street, and one where Veterans Boulevard (State Route 1) merges into Doyle Drive approximately 1 mile west of the Marina Boulevard approach. Doyle Drive passes through the Presidio on an elevated concrete viaduct (low viaduct) and transitions to a high steel-truss viaduct (high viaduct) as it approaches the Golden Gate Bridge toll plaza.

2.2 PROJECT DESCRIPTION

The preferred alternative for the Undertaking is known as the Presidio Parkway Alternative, which proposes to replace the existing Doyle Drive facility with a new six-lane facility and an eastbound auxiliary lane, between the Park Presidio interchange and the new Presidio access at Girard Road. The new facility will consist of two 11-foot lanes and one 12-foot outside lane in each direction, with 10-foot outside shoulders and 4-foot inside shoulders. In addition, the southbound direction will include an 11-foot auxiliary lane from the Park Presidio Interchange to the Girard Road exit ramp. The width of the proposed landscaped median will vary from 16 feet to 41 feet. The total roadway width will be 105.3 feet, and the overall facility width, including the median, will vary from 121.3 to 146.3 feet. To minimize impacts on the park, the footprint of the new facility will overlap with a large portion of the existing facility's footprint east of the Park Presidio interchange.

A 1,475-foot-long high viaduct will be constructed between the Park Presidio interchange and the San Francisco National Cemetery. The height of the high viaduct will vary from 66- to 115-feet above the ground surface. Two cut-and-cover tunnels (one for each direction) will extend 787 feet past the cemetery to east of Battery Blaney. The facility will then continue towards the Main Post in an open at-grade roadway with a wide, heavily landscaped median. A retaining wall between 13- and 26-feet high will be constructed along the south side of the facility between the battery and the second set of cut-and-cover tunnels. A landscaped berm will be constructed along the north side of the facility to shield park visitors from the proposed facility.

From Building 106 (Band Barracks), the second set of tunnels, one of which is up to 984 feet long, will extend east to Halleck Street. The amount of fill over the tunnels is being coordinated with the Trust based on requirements of their Vegetation Management Plan and structural considerations. The expected minimum depth to support native vegetation and accommodate maintenance equipment is six feet. The

facility will then rise slightly on a low-level causeway 525-feet long over the site of the proposed Tennessee Hollow creek restoration and then pass over a depressed Girard Road. The low causeway will rise to approximately ten feet above the surrounding ground surface at its highest point. East of Girard Road, the facility will return to existing grade north of the Gorgas warehouses and connect to Richardson Avenue.

The proposed facility includes a transition zone starting from the Main Post–area tunnels to reduce vehicle speeds prior to merging with city streets. A motor-control and switch-gear room to operate the tunnel life-safety equipment will be integrated with the Main Post tunnels. The Park Presidio interchange will be reconfigured due to the more southerly realignment of Doyle Drive. The exit ramp from eastbound Doyle Drive to southbound Veterans Boulevard will be replaced with standard exit-ramp geometry and widened to two lanes. The loop of the westbound Doyle Drive exit ramp to southbound Veterans Boulevard will be improved to provide standard exit-ramp geometry. The northbound Veterans Boulevard connection to westbound Doyle Drive will be realigned to provide standard entrance-ramp geometry. The northbound Veterans Boulevard connection to eastbound Doyle Drive will be reconstructed in a similar configuration as the existing directional ramp with improved sight lines and exit and entrance geometry.

The Presidio Parkway alternative will provide direct access to the Presidio and indirect access to Marina Boulevard in both directions via access ramps from Doyle Drive connecting to an extension of Girard Road. East of the Letterman garage, Gorgas Avenue is a one-way street with a signalized intersection at Richardson Avenue. North of Richardson Avenue, Lyon Street will remain in its existing configuration, providing access to the two-way Palace Drive.

The surface parking spaces will be reconfigured to maintain the existing parking supply in the area and improve pedestrian access between the Presidio and the Palace of Fine Arts. The Preferred Alternative will include extended bus bays on both sides of Richardson Avenue that will accommodate up to four buses each, and improved crosswalks to provide safer and enhanced pedestrian circulation in the area. The extended bus bays will keep the buses out of the main flow of traffic during stops; provide safer merging capability for the buses; and facilitate transfers between Golden Gate Transit, Muni, and PresidioGo vehicles. Fences will be required along the edge of the at-grade portions of the roadway to restrict pedestrian access onto the roadway.

SECTION 3: REGULATORY CONTEXT

3.1 FEDERAL REGULATIONS

The studies described in this report and future studies associated with the Undertaking will be conducted in compliance with Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800, as amended in 1999. Section 106 requires that federal agencies, and entities that they fund or license, consider the effects of their actions on properties that are listed in the NRHP, or that may be eligible for such listing. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources, including archaeological, historical, and architectural properties, must be inventoried and evaluated. Although compliance with Section 106 is the responsibility of the lead federal agency, others can conduct the work necessary to comply.

Additionally, because the Presidio is a National Historic Landmark, it is a statutory requirement under Section 110(f) of the NHPA that the agency official, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm resulting from an undertaking.

3.1.1 Application of Section 106 to the Undertaking to Date

The FHWA established that the replacement of Doyle Drive is an undertaking for the purposes of Section 106 of the NHPA and that the Undertaking will affect historic properties. Compliance with Section 106 of the NHPA for this project was initiated in 2000. Two APEs, one for architectural resources and one for archaeological resources, were established early in the project. The SHPO concurred with FHWA regarding the focused APEs on October 31, 2001. The focused architectural APE is in Appendix C.

In early 2004, FHWA and Caltrans reviewed the focused APEs and compared them to the revised Alternative 2 and new Alternative 5 developed after the approval of the original focused APEs. FHWA and Caltrans determined that, while the focused APEs had expanded slightly at that time, no additional identification work was needed to comply with 36 CFR 800.4. To obtain agreement from the cooperating agencies, Caltrans sent a letter to NPS and the Trust requesting that they concur in the modification of the focused APEs and the adequacy of the identification efforts for Alternative 5; the cooperating agencies concurred in September 2004. SHPO reconfirmed on December 17, 2007, that both focused APEs for this project appeared adequate and met the definition of an APE set forth in 36 CFR 800.16(d) of Section 106.

An archaeological survey report (ASR) and a historical architectural survey report (HASR) were produced to identify historic resources within the project area, and a finding of effect (the final finding of effect [FOE] plus an addendum FOE) were produced to determine the effects of the project on the identified historic resources. Following completion and approval of the final FOE, FHWA, with SFCTA and Caltrans, continued the Section 106 process, cooperating and responsible agencies, and other interested parties working toward a PA to resolve adverse effects that the Undertaking will have on historic properties within the focused APEs. Concurrently, a FOE Addendum was prepared to supplement the Section 106 activities by identifying and clarifying the nature of the potential adverse effects of subsequent project refinements on historic properties. The final and addendum FOEs outlined in detail the effects of the Undertaking on historic properties. Four properties were identified as having adverse effects. These include the following:

- PNHLD – overall district, contributors, and cultural landscape
- Doyle Drive – Presidio Viaduct (bridge 34 0019)

- Doyle Drive – Marina Viaduct (bridge 34 0014)
- Golden Gate Bridge – Doyle Drive as contributor

Two historic properties within the APE, the Palace of Fine Arts and the San Francisco National Cemetery, will not be affected by the Undertaking.

3.1.2 Continued Application of Section 106

As Stipulation I.A. of the PA states, the FHWA as lead federal agency, has the primary responsibility to ensure that the treatments described in the BETP are carried out. While Caltrans and SFCTA are operating as an integrated team to jointly design and implement the construction and mitigation measures for the Undertaking, Caltrans is ultimately responsible to the FHWA for the appropriate and timely implementation of mitigation commitments. As the Section 106 process proceeds, the Caltrans and SFCTA integrated team will continue to afford FHWA, Advisory Council on Historic Preservation (ACHP), the Trust, the National Parks Service staff on behalf of the Department of the Interior, the VA, SHPO, other agencies, interested parties, and the public reasonable opportunity to comment on the Undertaking and its effects on historic properties.

If modifications to the Undertaking subsequent to the execution of the PA and the completion of the BETP should necessitate a revision to the APE, Caltrans, on behalf of the FHWA, and with the SFCTA as part of the integrated team, will consult with the Trust, NPS–Golden Gate, NPS–Pacific West Regional Office, and the SHPO to facilitate mutual agreement on the revisions. If changes to the APE include properties not previously evaluated for eligibility or effects, or changes to the project design are found to adversely affect a property within the APE previously not subject to effect, the regulations set forth in Section 106 will be followed and the treatment plans will be amended in consultation with the parties to the PA to incorporate any additional identification and treatment.

3.2 STATE REGULATIONS

The California Environmental Quality Act (CEQA) (Section 15064.5) requires the lead CEQA agency, in this case the SFCTA, to assess the impacts of the project on cultural resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Before the level of significance of impacts can be determined and appropriate mitigation measures developed, the significance of cultural resources must be determined. The application of Section 106 is considered to adequately address the requirements of CEQA for the purposes of this Undertaking.

3.3 AGENCY RESPONSIBILITIES

SFCTA is the project sponsor and lead agency responsible for complying with CEQA. FHWA is the lead federal agency responsible for complying with the National Environmental Protection Act (NEPA) and Section 106 of the NHPA. Caltrans is representing the responsibilities and interests of the FHWA as well as working with the SFCTA as part of the afore-mentioned integrated team. The Trust and the NPS–Golden Gate are both federal entities responsible for managing the PNHLD, which is federal land. Both the Trust and the NPS–Golden Gate are cooperating agencies for NEPA compliance. The SHPO is responsible for historic preservation in California and has participated in agency meetings to advise on historic preservation issues. The NPS has been delegated authority by the Secretary of the Interior for the purposes of commenting on the project. The ACHP has also been invited to participate in the

consultation. In addition, Caltrans conducted extensive consultation with the VA, the GGBHTD, and the San Francisco Recreation and Parks Department; GGBHTD declined to be a PA signatory.

3.4 AGENCY AND INTERESTED PARTY CONSULTATION

Public-outreach and agency-coordination activities undertaken since the issuance of the *Finding of Effect for the South Access to the Golden Gate Bridge – Doyle Drive* in December 2005 have been ongoing. Meetings to inform and involve interested parties in the Section 106 process are listed in Table 1 below.

TABLE 1. PUBLIC OUTREACH FOR CULTURAL RESOURCES

Date	Meeting
02/22/06	Alternative Workshop – Cultural and Natural Resources
02/23/06	Meeting with California Heritage Council; Fort Point and Presidio Historical Society; San Francisco Architectural Heritage
03/15/06	Design Workshop
04/05/06	Memorandum of Agreement (MOA) Workshop
05/03/06	MOA Workshop
07/27/06	MOA Workshop
09/11/06	MOA Workshop with SHPO and ACHP
09/27/06	BETP meeting with members of the California Heritage Council, Fort Point and Presidio Historical Association (PHA), and San Francisco Architectural Heritage
12/8/08	Presentation of mitigation plan to PHA

The project team conducted multiple design workshops to seek input on different elements of the Undertaking and to develop appropriate design refinements. Two workshops focused primarily on avoiding and minimizing impacts to cultural resources. These workshops assisted in identifying design refinements to address concerns of interested agencies, organizations, and residents and included participation by several interested parties in Section 106 consultation. In addition, the Doyle Drive Executive Committee, whose members represent all lead, cooperative, and responsible agencies, conducted five meetings during the release of the Draft Environmental Impact Study/Report (EIS/R), identification of the preferred alternative, and preparation of the Final EIS/R.

In compliance with Section 106 of the NHPA, meetings have been ongoing with several historic-preservation groups interested in the resources at the Presidio. Specifically, numerous meetings have been held with members of the Fort Point and Presidio Historical Association (now known as Presidio Historical Association), the California Heritage Council, and San Francisco Architectural Heritage to review their concerns about the Undertaking and to facilitate their participation in the Section 106 process. A number of other organizations, agencies, and individuals have also been consulted regarding the Undertaking.

The Undertaking has also included, and continues to include, a comprehensive outreach program that actively involves the public and other interested parties throughout the process. The program has used the NEPA scoping process and public open houses, key-stakeholder interviews and briefings, ongoing technical and community meetings, periodic general-public meetings, open houses and community workshops, information materials, and a public-hearing process.

A citizens advisory committee was established for the Undertaking. The Doyle Drive Subcommittee of the SFCTA's Citizens Advisory Committee meets regularly to discuss project issues and bring information back to the groups that they represent. The Doyle Drive Subcommittee members represent at-large interests, as well as the following associations/interests:

- Cow Hollow Association
- Cow Hollow Neighbors in Action
- NPS–Golden Gate Advisory Commission
- Marina Civic Improvement & Property Owners Association
- Marin Commuters
- Marin Neighborhood Association
- Neighborhood Association for Presidio Planning
- Planning Association for the Richmond Presidio Residents and Tenants
- San Francisco Bicycle Coalition
- San Francisco County Transportation Authority, Citizens Advisory Committee
- San Francisco Planning and Urban Research Association
- San Francisco Tomorrow

SECTION 4: PROGRAMMATIC AGREEMENT, TREATMENT PLANS, AND MITIGATION IMPLEMENTATION PLAN

In compliance with Section 106 of the NHPA, FHWA developed and executed a Programmatic Agreement (PA) to resolve adverse effects that will result from this Undertaking. The PA identifies that the FHWA, as lead federal agency, has the primary responsibility to ensure that the provisions of the PA are carried out; Caltrans and the SFCTA are operating as an integrated team to jointly design and implement construction and mitigation measures for the Undertaking. Caltrans is ultimately responsible to FHWA for the appropriate and timely implementation of mitigation commitments.

Two treatment plans are called for in the PA: a BETP and an Archaeological Treatment Plan (ATP). Both plans describe the work that needs to be conducted prior to, during, and after construction of the Undertaking to avoid, minimize, or mitigate effects on historic properties. Combined, these plans present in detail how the treatment measures that are stipulated in the PA will be carried out.

4.1 PURPOSE AND APPLICATION OF THE BETP

The BETP provides detailed descriptions of treatment measures stipulated in the PA that will be implemented to avoid, protect, minimize, and mitigate adverse effects to historic properties in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR Part 68) as published in the July 12, 1995 Federal Register (Vol. 60, No. 133), and the NPS's *Guidelines for the Treatment of Cultural Landscapes* (National Park Service 1996). The BETP describes the work that needs to be conducted prior to, during, and after construction within the PNHLD, specifically to treat the contributing buildings, structures, and elements of its cultural landscape, and the Golden Gate Bridge, that will be adversely affected by the Undertaking.

Over the course of the execution of the BETP, Caltrans and SFCTA will convene regular meetings of a treatment oversight panel (TOP), which will review and coordinate mitigation activities among responsible parties and communicate progress (see Table 2 for responsibility by agency). The TOP, which coordinated the content of this document and met several times to develop and refine treatment plans, is comprised of professionally qualified representatives from Caltrans, the SFCTA, NPS–Golden Gate, and the Trust Federal Preservation Officer (Trust FPO), and includes FHWA and others as appropriate. FHWA will receive minutes of TOP meetings and will have final authority over the application and appropriateness of treatments reviewed and initiated by the TOP.

TOP representatives from Caltrans, SFCTA, and the Trust FPO will coordinate efforts regarding the contracting of tasks identified in this document in order to ensure adequately qualified personnel will implement the treatments. Together they will review and approve the qualifications of individuals and firms considered to carry out the treatments, and participate in all source selection boards for selecting contractors for actions within the PNHLD. For a complete description of treatment-plan management and personnel qualifications, see Section 6.3. Caltrans and SFCTA will consult in the selection with regards to mitigation activities concerning properties outside of the PNHLD, namely the Golden Gate Bridge and the Palace of Fine Arts, with approval of the Golden Gate Bridge Highway and Transportation District and San Francisco Recreation and Parks Department, respectively. Caltrans and SFCTA will also consult with the United States Department of Veterans Affairs if any mitigation activity is necessary with regards to the San Francisco National Cemetery.

TOP representatives, as appropriate, will participate in the development of all contract scopes, contract modifications, technical review of all deliverables resulting from this treatment plan, review of efficacy and appropriateness of protective treatments, and identify any necessary amendments to previous

documents or agreements. Upon receipt of each draft deliverable, the reviewing members of the TOP will complete their review and provide comments within 30 days. Upon acceptance by these agencies, each report will then be forwarded to the FHWA for approval, then subsequently forwarded to SHPO for review and concurrence of adequacy. If the TOP does not receive notification from SHPO within a 30-day review period, the TOP will assume concurrence.

4.2 AMENDMENTS TO THE APE AND FOE

The APE and FOE may be amended if additional treatment measures are deemed necessary in response to effects caused by as-yet undeveloped mitigation measures for other types of resources, such as biological resource mitigation, noise abatement, or hazardous-waste mitigation. Hydrological and geotechnical studies may necessitate modifications to the Undertaking, or other design changes may prompt new studies. The need to amend the documents will be determined by the appropriate members of the TOP, in consultation with the SHPO. Changes in the mitigation of adverse effects and/or treatment of resources will be reflected in the MIP rather than amending the BETP.

Upon notification of any project changes that may affect historic resources and, consequently initiate changes to the APE and/or FOE, Caltrans and SFCTA will notify the Trust FPO and NPS–Golden Gate in writing describing changes prior to the commencement of the newly identified activities. The TOP will meet and analyze the potential for additional adverse effects, identify the nature of the effects, and recommend a course of treatment. If it is determined that measures to avoid or protect are feasible and is the appropriate course of treatment, then a description of the treatment will be written and forwarded to SHPO for notification. Caltrans and SFCTA will describe and schedule the proposed treatment in the MIP.

If the TOP determines that the APE must be changed, an effect cannot be avoided, or the resource cannot be protected, Caltrans and the SFCTA will notify the SHPO, NPS–Pacific West Regional Office, FHWA, the VA, and ACHP, as well as concurring parties to the PA, in writing which documents will be amended and why. The communication will include all necessary project descriptions, photographs, maps, diagrams, and plans needed to illustrate the changes and consequent effect and request SHPO's concurrence with the effect. If the SHPO does not respond within 30 days, then the TOP will assume concurrence and amend the documents as necessary.

Caltrans and SFCTA will then prepare any necessary amendments for 30-day review by the Trust FPO and NPS–Golden Gate. Upon approval by the Trust FPO and NPS–Golden Gate, Caltrans and the SFCTA will forward the amendment to FHWA for approval and transmittal to SHPO for concurrence and to ACHP for notification. If SHPO does not respond within 30 days, the TOP will assume SHPO has no objection to the proposed treatment and the appropriate documents will be so amended and the treatment scheduled in the MIP. All PA signatories and concurring parties will receive notification of the amendment.

Any changes to the APE, FOE, and/or MIP will be documented in the Semi-Annual Mitigation Monitoring Report (MMR).

TABLE 2. AGENCY ROLES AND RESPONSIBILITIES

Roles and Responsibilities of Programmatic Agreement Signatories		
Agency	**Representative(s)**	**Responsibilities**
SFCTA	Consultant for SFCTA	• Participate in TOP • Preparation of task orders • Review of consultant qualifications • Review of deliverables • Review of ongoing monitoring results/success • Determination of necessary amendments to APE, resource eligibility, FOE, treatment plans • Produce semi-annual mitigation-monitoring report
Caltrans	Branch Chief Office of Cultural Resource Studies, District 4	• Participate in TOP • Preparation of task orders • Review and approval of consultant qualifications • Review and approval of deliverables • Review of ongoing monitoring results/success • Determination of necessary amendments to APE, resource eligibility, FOE, treatment plans • Approve semi-annual mitigation-monitoring report
Presidio Trust	Federal Preservation Officer	• Participate in TOP • Review and approval of consultant qualifications • Review and approval of deliverables (30 days) • Review of ongoing monitoring results/success • Determination of necessary amendments to APE, resource eligibility, FOE, treatment plans • Approve semi-annual mitigation-monitoring report
National Park Service-Golden Gate	Chief, Division of Cultural Resources & Museum Management, or designee	• Participate in TOP as appropriate • Review and approval of deliverables (30 days) • Determination of necessary amendments to APE, resource eligibility, FOE, treatment plans • Approve semi-annual mitigation-monitoring report
Federal Highways Administration	Senior Transportation Engineer	• Participate in TOP as necessary • Review and approval of deliverables (including amendments) subsequent to Trust and NPS–Golden Gate approval (30 days) • Forward to SHPO for review and approval • Approve and distribute semi-annual mitigation-monitoring report
State Office of Historic Preservation	State Historic Preservation Officer, or designee	• Participate in TOP as necessary • Review and approval of deliverables (30 days) • Receive semi-annual mitigation-monitoring report
National Park Service- Pacific West Regional Office	National Register and National Historic Landmark Program Coordinator	• Participate in TOP as necessary • Receive approved deliverables, as appropriate • Receive semi-annual mitigation-monitoring report
Advisory Council on Historic Preservation	FHWA Liaison	• Participate in TOP as necessary • Receive approved deliverables, as appropriate • Receive semi-annual mitigation-monitoring report
Department of Veterans Affairs	Memorial Service Network V, National Cemetery Administration	• Receive approved deliverables, as appropriate • Receive semi-annual mitigation-monitoring report

4.3 ORGANIZATION OF THE BETP

The first four sections of this treatment plan introduced the BETP and its purpose within the context of the Undertaking, described the Undertaking, outlined the regulatory context regarding Section 106 of the NHPA, and described the application of and identified those responsible for the BETP.

Section 5 provides a review of properties that will be affected by the Undertaking and describes properties for which there are no anticipated effects, but for which measures will be taken to protect them from unanticipated damage.

Section 6 describes the three major phases of treatment, which are pre-construction, construction, post-construction, what kind of treatment will occur during these phases, and how treatment will correspond to project phasing. Also included is a brief overview of types of treatment measures to be implemented, which are described in detail in Sections 7, 8, and 9.

Section 7 provides specific approaches, standards, and methods prescribed to avoid adverse effects to historic properties. Application of these measures is described by identifying each property or contributor that will be actively avoided, and how the measures will be undertaken to achieve this.

Section 8 describes the Architectural Criteria that was developed by an integrated team to ensure that the designers of the new facility consider the historic status and character of the site. This is the single treatment designed to minimize harm.

Section 9 presents measures established to mitigate adverse effects. Treatments include HABS/HAER/HALS; moving, storing, and protecting Building 201; deconstruction and salvage or demolition of buildings 201, 204, 230, 670, Doyle Drive, and streets and landscape features; post-construction conditions assessment and response to inadvertent damage; reevaluation of resources; rehabilitation; and the development of a public interpretative program.

Section 10 summarizes the treatment plan and identifies future actions.

Section 11 is the Bibliography, which will also be used as a list of references considered as the professional standards for mitigation activities prescribed in this treatment plan. It includes guidance documents by the National Parks System as well as those recognized as preservation-industry standards for the treatment of historic properties. These activities and standards provided guidance in the preparation of this document and determination of appropriate treatment as prescribed herein. Many are available online, so web addresses are also included.

The Appendices include a matrix of mitigation activities organized by resource; a copy of the Architectural Criteria; maps, including the focused Architectural History APE, Presidio functional areas or planning districts, and a series of maps indicating the location of resources color-coded to indicate treatment; a list of previously completed HABS/HAERs of resources in the PNHLD and the Golden Gate Bridge; and a brief description of pile-foundation construction methods.

4.4 MITIGATION IMPLEMENTATION PLAN

The PA also calls for the preparation of a MIP. The MIP is a communication and scheduling tool for coordinating construction phasing with the treatment measures. It will combine the requirements of both the ATP and BETP with design/construction information to provide detailed guidance for the temporal and geographical phasing of treatment measures in the field.

The schedule of the Undertaking has been accelerated and divided into seven specific contracts or phases. The MIP will be organized by project phase and by historic resource. The MIP will be prepared concurrent with the plans, specifications, and estimate (PS&E) package. The activities to be included in this phase of the MIP are the pre-construction treatments, such as HABS/HAER/HALS, HSRs, and pre-construction condition assessments. Some of the information resulting from these studies is needed to inform standard special provisions, non-standard special provisions, and the location of protective barriers that will be included on the plan sheets, all of which will be part of the Undertaking's PS&E package.

Concurrent with the circulation of the PS&E package, Caltrans and the SFCTA will expand the MIP to include mitigation activities that are dependent upon information resulting from pre-construction treatments. The MIP will be subject to change as plans are further developed and completed before the award of the construction contracts. The plan will discuss how treatments will be executed during each stage of the Undertaking and will include a schedule for completion of mitigation measures based on the design and construction milestones established by the SFCTA and Caltrans integrated team. The MIP will address the ongoing communication between the PA signatories. Furthermore, the MIP will incorporate any subsequent substantive changes to the Undertaking, the effects of which will be determined and analyzed following Section 106 guidelines and procedures defined in the PA and this treatment plan.

4.5 REPORTING

4.5.1 Semi-Annual Mitigation Monitoring Report

An MMR describing the status of efforts to comply with the treatments described in the BETP and ATP will be prepared by Caltrans and SFCTA, and distributed by FHWA to all signatories and concurring parties to the PA. A draft report will be prepared and due each January 30th and June 30th of each reporting year until the FHWA determines that the treatment measures have been satisfactorily completed. Signatories will have 30 days to review and comment upon the reports, upon which time any comments are due in writing to FHWA. Final reports will be due and distributed to all PA signatories and concurring parties 30 days subsequent to the end of the comment period. Upon completion, FHWA shall ensure that the MMR will be made available to the public and that potentially interested persons and members of the public are invited to provide comments to the FHWA, as well as to the ACHP and SHPO. At the request of ACHP, SHPO, the Trust, NPS–Golden Gate, NPS–Pacific West Regional Office, FHWA, SFCTA or Caltrans, FHWA shall supplement the process through meetings to address comments and/or questions.

The MMR will include the following information and be organized as follows:

I. Introduction
II. Brief description of the current status of the Undertaking
III. Brief description of treatment measures (full descriptions can be found in the BETP and ATP)
IV. For each measure undertaken during the report period, text describing the action taken to implement the specific measures appropriate to each historic property, and the results of the action
V. Description of implementation and results of protective measures and monitoring undertaken during the report period
VI. Unanticipated archaeological discoveries, if any
VII. Responses to inadvertent damage, if any
VIII. Responses to unanticipated design details or construction events, if any
IX. Recommended alterations to planned treatments, if any

X. Summary of tasks completed and tasks foreseen in the next 6-month period
XI. Recommendations to amend the APEs, eligibility determinations, FOE, or PA, MIP, or improve communication among the parties, if needed
XII. Attachments, as appropriate:
    A. Photographs documenting avoidance, minimization, and mitigation efforts
    B. A table listing reports stipulated in the BEPT, and preparation/completion status and authors of the reports
    C. A table identifying all properties undergoing treatment, and the status of the treatment
    D. Updated contact list of participants in the treatment efforts

4.5.2 Report Dissemination

Technical reports resulting from implementation of the BETP will meet contemporary professional standards and the Secretary of the Interior's *Standards and Guidelines for Architectural and Engineering Documentation* (National Park Service 2000). Copies of all final technical reports, including, but not limited to this treatment plan, the ATP, MMR, HSRs, HABSs, HAER, and HALS, will be provided to the signatories of the PA for this Undertaking, and, as appropriate, concurring parties, the Northwest Information Center at Sonoma State University, NPS-Golden Gate Archives and Records Center, and other interested parties. Interested parties may include local historical societies; San Francisco History Center of the San Francisco Public Library; Bancroft Library at the University of California, Berkeley; California Historical Society; California Heritage Council; Presidio Historical Association; and the National Trust for Historic Preservation.

ProjectSolve2, a secure internet-based collaboration tool that allows project teams to communicate electronically, has been used throughout the Undertaking. Technical documents prepared in accordance with this BETP and the PA for this Undertaking will also be uploaded to *ProjectSolve2* for access by signatories, consulting parties, and interested parties as needed.

4.6 PREPARERS' QUALIFICATIONS

Jones & Stokes is the environmental consulting firm responsible for cultural-resource compliance under contract to Parsons Brinckerhoff and Arup, the project engineering firms who are under contract to SFCTA to prepare all environmental studies undertaken to comply with federal and state regulations. The process to develop this BETP was initiated by JRP Historical Consulting and completed by Caltrans professionally qualified staff. All staff members authoring this document meet or exceed the Secretary of the Interior's minimum professional qualification standards within the fields of history and architecture in accordance *with Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (September 29, 1983 Federal Register).

SECTION 5: HISTORIC PROPERTIES

The purpose of the BETP is to prescribe measures to avoid, minimize, and/or mitigate adverse effects to the contributing buildings, structures, and elements of the PNHLD cultural landscape, the San Francisco National Cemetery, the Golden Gate Bridge, and the Palace of Fine Arts. Below are tables identifying which properties will be protected and which properties will undergo mitigation treatments to lessen the adverse effects resulting from the Undertaking.

The historic properties to be treated for the Undertaking are complex properties, particularly the PNHLD. This single property contains individually eligible components, as well as contributing elements that can be defined as buildings, structures, objects, and landscape and linear features. Additionally, these contributing elements can be combined and considered to be significant in the manner in which they relate to one another, as in building clusters and circulation networks. In other words, the destruction or alteration of a building not only adversely affects that building; it will also affect the character of a grouping of related buildings, structures, objects, and landscape features. Landscape features can include designed features or natural features that have influenced the design or the pattern of the historic property's development. These historic functional areas or groupings of related resources are considered cultural landscapes.

5.1 HISTORIC PROPERTIES ADVERSELY AFFECTED

As identified in the FOE, four historic properties within the focused architectural APE will experience adverse effects through the destruction or alteration of the resources and/or contributing elements within the resources. These properties are the two Doyle Drive viaducts, the Golden Gate Bridge, and the Presidio. The two Doyle Drive viaducts, the Marina Viaduct and the Presidio Viaduct, have been identified as bridges that are individually eligible for the NRHP. Doyle Drive, in its entirety, has also been identified as a contributing element to the PNHLD in the 1993-updated documentation of the PNHLD. Furthermore, Doyle Drive has been identified as a contributor to the Golden Gate Bridge in its National Historic Landmark nomination, which is still pending. The four properties and the adverse effects are listed in Table 3.

TABLE 3. ADVERSELY AFFECTED PROPERTIES

Property Name	Undertaking Adverse Effect
Doyle Drive Presidio Viaduct (Bridge #34 0019)	Destruction
Doyle Drive Marina Viaduct (Bridge #34 0014)	Destruction
Golden Gate Bridge	Destruction of Doyle Drive, a contributing element to the historic property
PNHLD	Destruction of Doyle Drive, Buildings 204, 230, and 670, Bank Street, Vallejo Street, Young Street, partial destruction of Building 201 and alteration of district's cultural landscape and contributing elements

The PNHLD in its entirety covers approximately 1,491 acres; about 115 acres of this cultural landscape will be directly affected by the Undertaking. The Trust has divided the property into several planning districts, most of which extend into the focused architectural APE. Table 4 lists the contributors to the PNHLD that will be adversely affected by the Undertaking, and is organized by planning district.

TABLE 4. ADVERSELY AFFECTED HISTORIC PROPERTIES IN THE PNHLD

Historic Property		**Adverse Effect**
PNHLD		Alteration of district and alteration or destruction of contributing elements, including about 115 acres of cultural landscape
Number	**Contributing Element Affected**	
	Main Post Planning District	
201	Exchange Store	Partial destruction, removal and alteration
204	Exchange Store - Presidio Thrift Shop	Destruction
228	Bakery	Alteration of immediate setting
230	Warehouse	Destruction
2009	Bank Street	Destruction
2068	Halleck Street	Alteration
2094	Lincoln Boulevard	Alteration
None	Young Street	Destruction
None	Cultural Landscape – Bluff adjacent to National Cemetery and north of Main Post	Alteration
None	Cultural Landscape – Quartermaster Area	Alteration
	Crissy Field Planning District	
670	Chemical Storehouse	Destruction
None	Battery Sherwood	Alteration of immediate setting
None	Battery Blaney	Alteration of immediate setting
None	Battery Slaughter	Alteration of immediate setting
None	Battery Baldwin	Alteration of immediate setting
None	Park Presidio Boulevard (SR 1)	Alteration
2185	Vallejo Street	Destruction
2012	Battery Blaney Road	Alteration
2040	Cowles Street	Alteration
2042	Crissy Field Avenue	Alteration
None	Cultural Landscape – Stables Area	Alteration
	Fort Scott Planning District	
None	Richardson Avenue (U.S. 101)	Alteration
2063	Girard Road	Alteration
2064	Gorgas Avenue	Alteration
None	Cultural Landscape – Historic Forest	Alteration
	Letterman Planning District	
None	Cultural Landscape – Gorgas Warehouses Compound	Alteration
	Other	
None	Doyle Drive	Destruction

Table 5 shows the properties other than the PNHLD that will be adversely affected.

TABLE 5. ADVERSELY AFFECTED HISTORIC PROPERTIES OTHER THAN THE PNHLD

Historic Property	Adverse Effect
Doyle Drive Presidio Viaduct (Bridge #34 0019)	Destruction
Doyle Drive Marina Viaduct (Bridge #34 0014)	Destruction
Golden Gate Bridge, to which Doyle Drive is a contributor	Destruction of contributing element of historic property

Maps identifying the location of these historic resources can be found in Appendix C.

5.2 HISTORIC PROPERTIES THAT WILL NOT BE ADVERSELY AFFECTED

Although it has been determined that the Undertaking will adversely affect the PNHLD as a whole due to the alteration of the transportation corridor within the focused APE, the majority of the individual contributors will not be directly affected. There are about 280 contributing buildings and structures to the PNHLD within the focused architectural APE; approximately 210 of these are not in proximity to the Undertaking alignment and thus will not experience direct or indirect adverse effects. Additionally, only about 115 acres, or less than 8% of the total 1,491 acres that make up the Presidio, will be affected by the Undertaking. The Department of Veterans Affairs' San Francisco National Cemetery is located near the existing Doyle Drive and will also be near the replacement facility. Also, the Palace of Fine Arts, which is located just east of the PNHLD at the eastern end of Doyle Drive, is in the focused APE.

Although it is anticipated that these buildings, the cemetery, as well as some landscape features, will not be directly affected by demolition or construction activities related to the Undertaking, treatment measures will be taken to protect those that are in close proximity from inadvertent damage. The following table, Table 6, lists the resources for which there are no anticipated direct adverse effects but that will or may be subject to protective measures defined in this treatment plan. Refined project plans and the results of pre-construction conditions assessments will identify the final list of buildings that will be actively protected.

TABLE 6. HISTORIC PROPERTIES NOT ADVERSELY AFFECTED

Historic Property
PNHLD Contributors:
Main Post Planning District
Building 105 – Barracks and Mess Hall
Building 106 – Band Barracks
Building 107 – Switching Station
Building 108 – Electric Shop
Building 122 - Gymnasium
Building 123 – Garage
Building 128 – Enlisted Family Quarters
Building 129 – Enlisted Family Quarters
Building 227 – Warehouse
Building 229 – Bakery
Crissy Field Planning District
Building 603 – Crissy Center
Buildings 631 and 632 – Ammunition Magazines
Building 649 – Reserve Center
Building 650 – Stilwell Hall
Building 651 – Administration Building
Building 652 – Transformer Vault
Building 654 – Guard House
Building 661 – Stable
Building 662 – Stable
Building 667 – Stable
Building 669 – Incinerator
Building 681 – Barracks
Building 682 – Enlisted Barracks and Mess
Building 683 – Day Room
Buildings 1182, 1183, 1184, 1185, 1186, 1187, and 1188 – Mason Street Warehouses
Batteries – Baldwin, Blaney, Slaughter, Sherwood
Fort Scott Planning District
Building 966 – Radio
Building 967 – Film Vault
Buildings 1263, 1266, 1270, 1289, 1290, 1291, 1293 – Storey Ave. Enlisted Family Housing

Letterman Planning District
Building 1063 – Medical Supply Warehouse
Buildings 1151 and 1152 – Indoor Swimming Pool and Gymnasium
Buildings 1160, 1161, 1162, 1163, 1167, 1169, and 1170 – Gorgas Street Warehouses
South Hills Planning District
San Francisco National Cemetery, area along Lincoln
Building 150 – Mortuary Chapel
Building 151 – Housing
Building 152 – Restroom
Building 153 – Garage
Building 154 – Maintenance Garage
Outside of the PNHLD
Palace of Fine Arts

SECTION 6: DESCRIPTION OF TREATMENT PROGRAM

This BETP provides detailed descriptions of measures to avoid, minimize, and mitigate adverse effects to the PNHLD, its contributors, including buildings, structures, and elements of the cultural landscape, the Golden Gate Bridge, the San Francisco National Cemetery, and the Palace of Fine Arts. Many of the proposed treatments need to be undertaken prior to the commencement of construction activities; others are in response to construction activities, while the remaining treatments are in response to the adverse effects of the completed construction activities.

All aspects of the treatment program will be carried out by, or under the direct supervision of, persons who meet or exceed the Secretary of the Interior's professional qualifications standards (48 CFR 44738–9) in these disciplines. Measures that need additional levels of expertise, such as vibration analysis, moving a historic building, and recording landscape features, will be undertaken by professionals with demonstrable experience in those fields.

6.1 TREATMENT PHASES

A project of this complexity will take several years to complete and construction activities will necessarily be phased to accommodate myriad factors, including the gradual demolition of the existing facility and the construction of the new facility while accommodating traffic with as little interruption as possible. Consequently, the approach to construction will not be linear; the existing structure will not be demolished prior to the commencement of the construction of the new facility. Table 7 lists treatment measures as they are related to construction. How these treatments will be choreographed with the individual contracts, the demolition and construction plans (once completed), and throughout the duration of the Undertaking will be defined in the MIP. Details of each treatment, and how the treatment will be applied to specific resources, are described in the following sections.

TABLE 7. MITIGATION MEASURES BY UNDERTAKING PHASE

Pre-Construction
Recordation • Historic American Building Survey (HABS) of Buildings 106, 201, 204, 228, 230, 670 • Historic American Engineering Record (HAER) of Doyle Drive • Historic American Landscape Survey (HALS) of Batteries, Bluff, Stable Area, Quartermaster Area, Gorgas Warehouse Compound, Streetscapes, Landscapes totaling about 115 acres directly impacted along the Doyle Drive corridor, of which approximately 86 acres are covered with buildings, roads, paved areas, and ornamental landscape, lawn, isolated trees and shrubs; the remainder is vegetation corridor • Historic Structures Report (HSR) of Buildings 106, 201, 228 • Conditions Assessment of Buildings 105, 107, 108, 122, 123, 128, 129, 150–154, 222, 223, 227, 229, 603, 631, 632, 649–652, 654, 661, 662, 667, 669, 681–683, 966, 967, 1063, 1151, 1152, 1160–1163, 1167, 1169, 1170, 1182–1188, 1263, 1270, 1289–1291, 1293, the batteries, portion of San Francisco National Cemetery along Lincoln Boulevard, Palace of Fine Arts • 3–dimensional laser survey of all of the above buildings
Architectural Criteria • Doyle Drive • Portion of Functional Areas or Landscape Units through which the Undertaking passes
Protection • Vibration Analysis of Building 106, Palace of Fine Arts • Stabilization of Building 106, 228, and potentially more, pending pre-construction conditions

assessments recommendations • Implementation of Avoidance/Protection Measures Alteration/Construction • Moving and Storage of Building 201 • Deconstruction and Salvage of Buildings 204, 230, part of 201 • Demolition of Building 670 Semi-Annual Report
During Construction
Protection • Monitor Avoidance Measures • Monitor Conditions of Resources • Response to Inadvertent Damage, if necessary Interpretation • Public Education and Outreach • Historical Alteration/Construction • Doyle Drive Semi-Annual Report
Post-construction
Recordation • Conditions Assessment of Buildings 105, 107, 108, 122, 123, 128, 129, 150–154, 222, 223, 227, 229, 603, 631, 632, 649–652, 654, 661, 662, 667, 669, 681–683, 966, 967, 1063, 1151, 1152, 1160–1163, 1167, 1169, 1170, 1182–1188, 1263, 1270, 1289–1291, 1293, the batteries, portion of San Francisco National Cemetery along Lincoln Boulevard, Palace of Fine Arts • Evaluation of Building 201 • Update NHL for PNHLD, Golden Gate Bridge Rehabilitation • Landscape features to established Architectural Criteria • Building 201 • Inadvertent damage, if necessary Semi-Annual Report/Final Report

These treatments are further defined in Sections 7–9 as measures that will be implemented to avoid, minimize, and mitigate adverse effects.

6.2 TYPES OF MEASURES TO BE IMPLEMENTED

The PA, in accordance with Section 106, part 800.6, documents measures agreed upon by the project proponent agencies in consultation with the SHPO and other consulting parties as measures to be implemented to avoid, minimize, and mitigate adverse effects to historic properties. In general, the following measures have been identified:

6.2.1 Measures to Avoid Adverse Effects

Measures to avoid harming resources include conducting vibrations studies and implementing stabilization measures based on the results. Other measures include preparing HSRs, preparing pre-

construction-conditions assessments, establishing and installing protection measures based on a combination of the results of these assessments and project plans, and conducting monitoring during construction.

6.2.2 Measures to Minimize Adverse Effects

A single measure to minimize adverse effects was the development of architectural criteria (AC) to be applied to the design of the new construction and the rehabilitation of the landscape resources affected by the construction.

6.2.3 Measures to Mitigate Adverse Effects

Measures to mitigate adverse effects include the recordation of affected properties to the standards of HABS/HAER/HALS; moving, storage, rehabilitation of one-half of one affected building (201); the salvage of buildings planned for deconstruction (part of 201, all of 204 and 230); rehabilitation of affected resources; reevaluation of the significance of affected properties; updating National Historic Landmark documentations; interpretation; and final reporting.

These measures, and how they apply to specific historic resources, are discussed in depth in Sections 7, 8, and 9.

6.3 TREATMENT PLAN MANAGEMENT AND PERSONNEL QUALIFICATIONS

All aspects of the treatment plan will be conducted by, or under the direct supervision of, persons who meet or exceed the Secretary of the Interior's professional qualifications standards (48 CFR 44738–9) as appropriate. Measures that need additional levels of expertise or otherwise different qualifications will be undertaken by professionals with demonstrable experience in those fields to ensure that the implementation of these measures results in avoidance and/or minimization of adverse effects to the historic resources.

Per Stipulations 1.A and B of the PA, for actions involving resources under the Trust's management, Caltrans, SFCTA, the Trust FPO, and members of the TOP will coordinate efforts regarding the review and approval of the qualifications of individuals and firms considered to carry out terms of the PA and participate in all source-selection boards for selecting contactors. These TOP members, as well as a representative from NPS–Golden Gate, will participate in the technical review of Undertaking protective measures and deliverables; and have a primary role in all NRHP-eligibility determinations. For properties outside of the Presidio or managed by an entity other than the Trust or NPS–Golden Gate, namely the Golden Gate Bridge, the San Francisco National Cemetery, and the Palace of Fine Arts, resourcing efforts, if necessary, will be coordinated between Caltrans and SFCTA, with the approval of those property managers.

The appropriate professionals by tasks are discussed below.

6.3.1 Measures to Avoid Adverse Effects

Vibration Studies and Monitoring

These studies and the resultant monitoring plan will be prepared by a professional geologist or a professional with at least a bachelor of science from a qualified program in engineering, physics or geology offered by an accredited university or college, and with a minimum of five years experience in

vibration monitoring and control, and in the measurement and evaluation of ground-borne vibration caused by construction activities consistent with the scale and methods proposed for in this Undertaking. They will also demonstrate experience in preparing and implementing construction vibration monitoring plans and analyzing vibration impacts to historic structures, including unreinforced-mansonry buildings. They will have experience in determining vibration-mitigation requirements for historic buildings through design and construction to the completion of a project; experience in determining the potential for structural damage due to building vibration or destabilization of foundation soils; and appropriate instrumentation and analysis procedures for quantifying ground and building vibration.

Elevation Survey

Project plans, geotechnical findings, and pre-condition surveys will identify buildings that need elevation surveys. Three months prior to any impact work, a professional land surveyor will conduct elevation surveys to obtain vertical elevations of these buildings. After the impact work or dewatering is completed in the specified location, the elevations will be documented on a daily basis for five days, at which time a report documenting the monitoring will be prepared and verified by a professional land surveyor. Should the survey determine that stabilization is necessary, the professional qualifications identified in the following paragraph will be applied.

Stabilization Design and Implementation

Structural engineers with demonstrable experience in working with historic buildings, including unreinforced-masonry buildings, will prepare stabilization designs for specified buildings. All designs will be reviewed and approved by either an architectural historian or historical architect that is professionally qualified according to the Secretary of the Interior's standards, and will follow the Secretary of the Interior's guidelines for the treatment of historic buildings. The Trust FPO will also review and have the opportunity to comment on any protective measures that will be applied directly to any building or structure. Contractors will implement the stabilization design under the supervision of structural engineers in conjunction with a qualified historical architect or architectural historian.

Upon completion of the Undertaking, any temporary stabilization materials will be removed and the building will be returned to its pre-construction condition. Permanent stabilization, such as repairs to weakened structural material to ensure no additional deterioration is caused by the Undertaking, will be done according to the Secretary of the Interior's standards under the supervision of a qualified architectural historian or historical architect and will not be removed. All post-construction removal of stabilization materials and consequent repairs will be reviewed and approved by a qualified architectural historian or historical architect. The Trust FPO will also review and approve the adequacy and appropriateness of any necessary repairs.

Historic-Structures Reports

Historic-structures reports are generally interdisciplinary tasks which, depending upon the subject building, may include a historian, architectural historian, historical architect, structural engineer, mechanical engineer, conservator, materials scientist, photographer, and other specialties as needed. The TOP will define and approve the project team that is appropriate for each subject building. Each professional will have demonstrable experience in the preparation of historic-structures reports; historians, architectural historians, and historical architects will also be qualified according to the Secretary of the Interior's professional standards.

Pre-Construction Condition Assessments

Pre-construction condition assessments, although less detailed than historic-structures reports, may also require an interdisciplinary team, depending upon the subject building. This team may include an architectural historian, historical architect, structural engineer, and photographer. Selected architectural

historians or historical architects will have demonstrable experience in assessing character-defining features of historic buildings and historic integrity of the features, and will be qualified according to the Secretary of the Interior's standards. Structural engineers will review the buildings selected for assessment and determine the need for them to perform structural assessments by subject building. Additionally, all buildings assessed will also be surveyed using 3-dimensional recording equipment; the results will be processed and the images will be draped over digital photographs to provide a highly detailed visual and measured record of each building. The TOP will review and approve the qualifications of the team as well as the resulting assessments.

To avoid duplication of effort, condition assessments will be done in cooperation with Caltrans right-of-way agents or their contractors. An architectural historian or historical architect working with the right-of-way agent will ensure that the historic features are adequately documented. The architectural historian or historical architect will be responsible for adhering to the reporting requirements outlined in this treatment plan.

Protection from Construction-Related Damage

Architectural historians, historical architects, and landscape architects meeting the Secretary of the Interior's professional qualifications will develop appropriate protection measures. The implementation of the protection measures will be done under the supervision of these same professionals. All protection measures will be included in the construction contracts and specifications. The measures will be determined by the adjacency of the Undertaking and developed with information resulting from the precondition assessments. Protection measures will be reviewed and approved by the TOP. Prior to the commencement of the Undertaking, the TOP will review the measures with the contractor to ensure that the measures are clearly understood.

Protection Prior to Construction

For the protection of buildings 201, 204, 230, an appropriately qualified contractor will design, have approved by the Trust, and will install fire and intrusion security alarms fully compatible with the Presidio's communication equipment system. A professionally qualified architectural historian will review the installation plans and actual installation to ensure that the system is installed with minimal damage to historic fabric and will follow the Secretary of the Interior's standards for the treatment of historic resources. The qualifications of the architectural historian as well as the security contractor will be reviewed and approved by the TOP.

Monitoring

All monitoring and reporting will either be conducted by a qualified architectural historian, or under the direct supervision of a qualified architectural historian. Monitoring will occur during all construction phases of the Undertaking; the monitoring schedule is dependent upon defined construction phases. The schedule will also be dependent upon the findings of the pre-condition assessments and the protection needs of each subject building. It will be determined by the TOP, and scheduled in the MIP.

6.3.2 Measures to Minimize Adverse Effects

Architectural Criteria

The Architectural Criteria has been developed by an interdisciplinary team made up of professionals from the Trust, Caltrans, NPS, and representatives of SFCTA, including architectural historians, architects, and landscape architects, and is attached as an appendix to this treatment plan (Appendix B). The TOP will regularly review the design and implementation of the Undertaking to ensure that the criteria are being followed.

6.3.3 Measures to Mitigate Adverse Effects

HABS

Historic American Building Surveys, like historic-structures reports, are generally interdisciplinary tasks which, depending upon the subject building, may include a historian, architectural historian, historical architect, structural engineer, mechanical engineer, conservator, materials scientist, draftsperson, photographer, and other specialists as needed. The TOP will define the project team that is appropriate for each subject building. Each professional will have demonstrable experience in the preparation of HABS; historians, architectural historians, and historical architects will also be qualified according to the Secretary of the Interior's professional standards. The TOP will approve the team.

HAER

Historic American Engineering Reports are also most often interdisciplinary tasks, with a greater emphasis on appropriately qualified engineers, including structural and mechanical. A single historic property, Doyle Drive itself, will be subject to HAER. The documentation will also include a Secretary of the Interior professionally qualified historian or architectural historian, a draftsperson, and a photographer. Each professional will have demonstrable experience in the preparation of HAER reports. The TOP will approve the team.

HALS

Historic American Landscapes Surveys also require interdisciplinary teams. The HALS work will be a large body of work, as it will record portions of several planning districts throughout the length of Doyle Drive that will be altered by the Undertaking. Consequently, the areas to be recorded have been divided into logical sub areas. As with HABS, the team will depend upon the specific subject area. All HALS surveys will include a historian, an architectural historian, a landscape architect, each of whom will be qualified under the Secretary of the Interior's professional standards; the team will also include an appropriately experienced photographer and similarly experienced draftsperson. Depending upon the subject area, the team may also include a GIS practitioner, an arborist, horticulturalist, geomorphologist, and/or botanist, all of whom will have demonstrable experience in recording historic landscapes. The TOP will approve the team.

Moving Building 201

The stabilization design and implementation undertaken to prepare Building 201 for moving will follow the professional qualifications described in the Stabilization Design and Implementation section above. Additionally, the stabilization design will be prepared by an engineer or engineering firm with demonstrable experience in the relocation of historic buildings; this professional will work with the moving contractor to ensure that the stabilization is appropriate for their determined method of relocation. The moving contractor will also have demonstrable experience in the moving of wood-framed historic buildings. The TOP will approve the contractor.

Deconstruction and Salvage

Deconstruction and salvage procedures will follow those already established by the Trust and in collaboration with the Trust's Waste Reduction Coordinator. All deconstruction activities will be under the supervision of an architectural historian or historical architect. Once the building is dismantled, and the salvage items have been segregated and recorded, the professional qualifications of those stockpiling and storing the materials will be the responsibility of the Trust.

Rehabilitation

An interdisciplinary team, including architectural historians, historical architects, structural engineers, and possibly mechanical engineers will rehabilitate Building 201. Each professional will have demonstrable experience in the application of the Secretary of the Interior's standards for the rehabilitation of historic

buildings; architectural historians, and historical architects will also be qualified according to the Secretary of the Interior's professional standards.

An interdisciplinary team, including architectural historians, historical architects, and landscape architects, will be included in the rehabilitation of the cultural landscape. The architectural criteria, developed as a means by which to minimize harm, will be followed as much as is feasible. Each professional will be qualified as above, and approved of by the TOP.

Reevaluation

Historians, architectural historians, and landscape architects, as appropriate, meeting the Secretary of the Interior's standards of professional qualifications will perform all reevaluation activities. Photographers, drafts people, and GIS practitioners with demonstrable experience in the documentation of historic properties will also be involved in the preparation of the document. Preparers' qualifications will be reviewed and approved by the TOP.

Interpretation

In cooperation with the Trust's interpretation program, historians establishing interpretive themes and compiling information will be professionally qualified. Individuals and/or companies contracted to produce interpretive materials will have demonstrable experience in working in the media specific to the interpretive task. This may include printers, photographers, illustrators, designers, writers, fabricators, GIS practitioners, and/or computer programmers, depending on the interpretation form. All contractors will be selected by the TOP and the Trust's interpretive program managers, and will be expected to work closely with the Trust.

SECTION 7: TREATMENT MEASURES TO AVOID ADVERSE EFFECTS

Built environment and cultural-landscape features within the project APE will be subject to various treatments before and during project construction that will help avoid adverse effects. These include vibration studies and stabilizations measures, recordation of current conditions, protection treatments, and monitoring. These treatments will be initiated during the pre-construction phase so that relevant data and provisions for protective measures can be included in the project plans and specifications.

The pre-construction recordation treatments will be used to inform the development of the protection, avoidance, and monitoring treatments. For example, photographic views of current conditions from the conditions assessments, 3-dimensional laser surveys, or photographic reproductions from the HABS/HAER/HALS documentation will be used in the development of protection plans and to provide comparative information for the monitoring process. Coordination of this information will ensure that the protection and monitoring plans adequately describe the resources to be protected. HALS documentation of cultural landscape elements will occur early in the pre-construction period, thereby providing much of the necessary inventory and current conditions information required for protection and ultimate rehabilitation of landscape features.

All stabilization, whether temporary or permanent, all pre-construction repairs made to ensure that the buildings will not be further damaged during the Undertaking, and the placement and removal of monitoring or alarm equipment will adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Standards, 36 CFR 68). These Standards include four approaches to historic preservation: preservation, rehabilitation, restoration, and reconstruction. The appropriate standard to be used here is preservation, which places a high premium on the retention of all historic fabric through conservation, maintenance and repair. Post-construction treatments will generally follow rehabilitation standards.

7.1 VIBRATION STUDIES, VIBRATION MONITORING, AND STABILIZATION

Stipulation III.A.1.d of the PA states that the stability of buildings and structures that have the potential to be affected by construction vibration will be evaluated by a structural engineer prior to the commencement of any construction activity and that the results of the studies will inform any additional mitigation requirements, such as changes in construction methodology, shoring, and building stabilization as a means of protecting vulnerable properties from excess vibration.

7.1.1 Previous Vibration Studies and Findings

Vibration effects on historic buildings, structures, and objects caused by construction and demolition activities of the Doyle Drive project have been studied, reviewed, and commented upon throughout the Section 106 process. The Final FOE (December 2005) addressed the potential for construction-related vibration to cause adverse effects to historic properties, including the Palace of Fine Arts and contributors to the PNHLD. This analysis was based on the findings of the *Final Noise and Vibration Study, South Access to the Golden Gate Bridge* (NVS) prepared by Environmental Science Associates in December 2004.

The NVS used a standard employed for ruins and historic monuments for analysis of buildings on the Presidio as the upper level of vibrations to which historic buildings, particularly those of masonry construction, should be subjected. It was determined that these standards, .08 inch per second of peak particle velocity (PPV) at a 200-foot distance, was conservative but an appropriate limit to apply to

buildings of historic interest that are more susceptible to damage. The NVS also noted that wood-frame buildings are less susceptible to damage by vibration than masonry buildings.

The NVS stated that this standard is very conservative in terms of structural damage risk, particularly for intermittent events, including sustained pile driving. The NVS concluded that the use of bulldozers and earthmoving equipment used for tunnel excavation, jackhammers used to break up reinforced concrete, and truck movements will not likely cause structural damage to historic buildings on the Presidio. The buffer zone for worst-case ground-borne vibrations could be less for equipment that would cause less vibration, such as a small bulldozer, which the NVS stated could operate as close as 25 feet from a fragile historical building without exceeding the ruins and monuments vibration standard.

Noise levels are not considered to be a threat to historic buildings within the context of this project because the Presidio is occupied; noise levels which are considered damaging to human health and safety are far lower than levels that would have the potential to damage fragile buildings and will not be exceeded.

7.1.2 Vibration Studies and Proposed Protective Measures

Qualified geologists have performed geotechnical studies and have defined and mapped soil conditions throughout the project area. As a result some buildings will undergo additional vibration testing prior to construction to establish a baseline vibration level and define a safe threshold for vibration caused by construction activities. The condition of these buildings will be taken into consideration when establishing acceptable vibration thresholds. These buildings will be monitored during construction to ensure that vibration remains at a non-potentially harmful level. Additionally, these vibration studies will inform the level and manor of stabilization, if needed, of these resources throughout construction.

7.1.3 Appropriate Demolition and Construction Methods

The viaducts are in close proximity to historic buildings, therefore the method of demolition will not be simply dropping the structures to the ground. Alternative approaches include lowering demolished viaduct structures by crane or the use of earthen cushions. If earthen cushions are used, their effect in reducing vibration will first be evaluated in less sensitive areas of the project site but within the Undertaking's archaeological APE (the area in which there will be ground-disturbing activity). To reduce potential vibration impacts to historic buildings from breaking up reinforced-concrete structures on the ground, the components will be placed as far as is feasible from the buildings before they are broken up, again, within the Undertaking's archaeological APE. The vibration levels will be monitored. If blasting for either demolition or construction is permitted, the blast weights and blast design will be based on achieving compliance with conservative ground-vibration limits at the closest buildings. Vibration monitoring will also be carried out during blasting.

Appropriate construction-vibration limits will be incorporated in the construction documents. The recommended ground-vibration limits are a PPV not exceeding 0.2 inch/second adjacent to the closest facades of wood-framed historical buildings in good condition and a PPV not exceeding .08 inch/second adjacent to the closest facades of historical buildings more susceptible to damage including buildings of masonry construction and wood-frame buildings in poor structural condition.

Impact pile driving will not be used within 200 feet of fragile historic structures; other methods to construct pile foundations will be used as appropriate to avoid damaging historic buildings. These may include cast in drill hole, cast in steel shell, oscillated pile, GeoJet foundation, Tubex grout injection, or micropiles. For a brief description of each, see Appendix E, Descriptions of Pile Foundation Construction Techniques. In areas that are within about 65 feet of historic buildings and where a heavy roller is

required for soil compaction, vibration monitoring at those structures will be carried out and consideration given to the use of a lighter roller. To avoid resonance effects, vibratory rollers will not be stopped or started in proximity to sensitive buildings.

7.1.4 Ground-Vibration Monitoring

Vibration measurements and recording will be conducted before construction activities begin to establish a baseline, and during construction activities that may generate high levels of ground vibration within 200 feet of historic buildings. These include pile-driving, excavation, hauling of dirt, placing of base material, compaction, and during paving operations or other significant activity. The vibration-monitoring-system equipment will undergo certified-laboratory calibration conformance at least once a year. The precise location of the monitoring equipment is contingent upon final project design. It may be placed in or adjacent to buildings, structures, or between demolition/construction activities and buildings and structures. The locations will be identified by qualified professionals prior to the commencement of any demolition or construction activities and will be incorporated into construction contracts, plans, and specifications.

The seismograph sensors will be firmly set in undisturbed soil or firmly mounted on at-grade concrete slabs or asphalt pavement. After establishing baseline measurements prior to the start of construction activities, vibration measurements will be conducted for at least two hours at each location during a typical measurement day. The vibration monitoring will be carried out using calibrated seismographs that provide instant electronic or paper recordings of the maximum PPV recorded in each of three orthogonal directions, over intervals not exceeding 1 minute. The seismographs will be capable of activating immediate audible or visual alarms or electronic transmission to alert the contractor's representative and monitors if the vibration exceeds a preset limit. If the limits are exceeded, the construction work causing the exceedances must immediately cease. Before the work is permitted to resume, the contractor will be required to investigate modifications to the construction procedures or alternative procedures that will reduce vibration to an acceptable level. Monitoring will also assess whether the best-practice standards are being successfully implemented to avoid vibration impacts.

The results of the measurements will be tabulated and reported on a weekly basis, including the measurement location, date, and source of vibration. The highest measured vibration levels for each monitoring location and their relationship to the .08 inch/second PPV or .2 inch/second PPV criteria, as appropriate, will also be included in the report.

7.1.5 Known Resources of Concern

Brick-constructed Building 106 is located on the Main Post, in the vicinity of the Main Parade Ground. At the time the Addendum Finding of Effect was finalized, the northwest corner of the building was going to be less than six feet away from the southern edge of the Doyle Drive replacement facility (Figure 1). The design team has since been able to increase the distance to approximately 18 feet. While this is a considerable improvement, nevertheless, the building needs to be stabilized, protected, and monitored throughout construction. Vibration analysis and a historic-structures report of the building will inform engineers and historical architects of weak points and how best to stabilize and protect the building throughout construction. Prior stabilization of this building will be researched and taken into account when designing the most affective stabilization plan.

It is anticipated that the tenant will remain in the building throughout the Undertaking. Therefore protective measures must be designed to accommodate occupancy and continued productivity. Stabilization measures for this building may include both structural repairs and remedial measures. Supporting planks or plywood may be attached to add structural stability, protect the original exterior

fabric, or cover windows and doors. Diagonal braces may also be added for structural support. Padded wood supports may also be used to protect important interior features and finishes, such as historic plasterwork and decorative elements. Communication and coordination with the tenants will be handled by the Trust. All historic collections and furnishings, including furniture, display cases, and storage devices, located inside Building 106 that can be removed, will be removed and relocated during demolition and construction to a location selected by the Trust. The protection and/or removal of non-historic furnishings and other items belonging to the tenant is not considered mitigation in terms of historic resources or Section 106 and is therefore not addressed in this treatment plan.

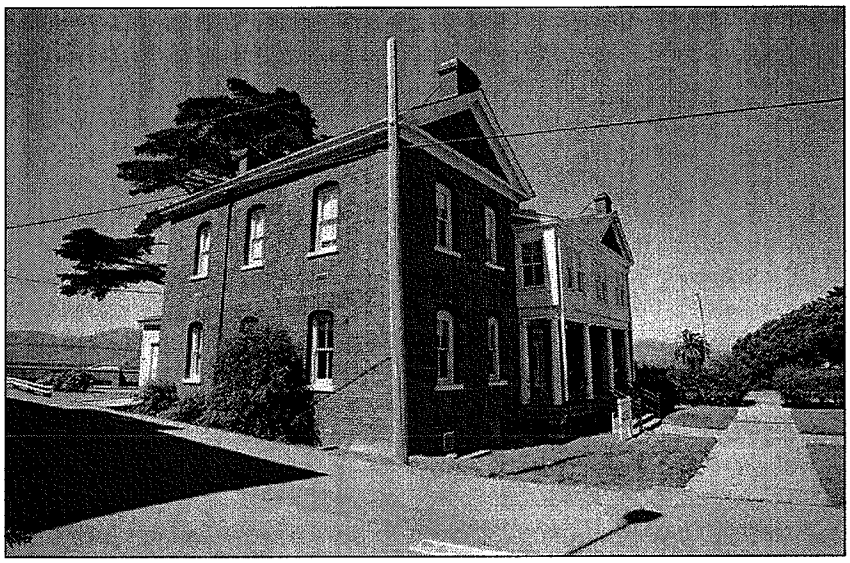

FIGURE 1. BUILDING 106, FACING NORTH

As previously discussed, structural engineers will be evaluating several potentially fragile buildings prior to construction. The results of these evaluations, along with vibration studies and geotechnical information, will provide information to define protective measures and construction vibration thresholds. For example, the profile of Halleck Street, which runs past unoccupied Building 228, will be raised approximately 4.6 feet adjacent to the building to accommodate the construction of the Main Post Tunnel. The building is unreinforced brick construction and in poor condition. Therefore, it is considered necessary to analyze its sensitivity to construction vibration and develop appropriate protective measures.

The Palace of Fine Arts is not within the boundaries of the PNHLD. The building itself is a reconstruction and portions have recently been rehabilitated. However, because it is on landfill susceptible to liquefaction, and the foundation has not been retrofitted, it has been determined that it would be prudent to analyze its sensitivity to construction vibration (Figure 2).

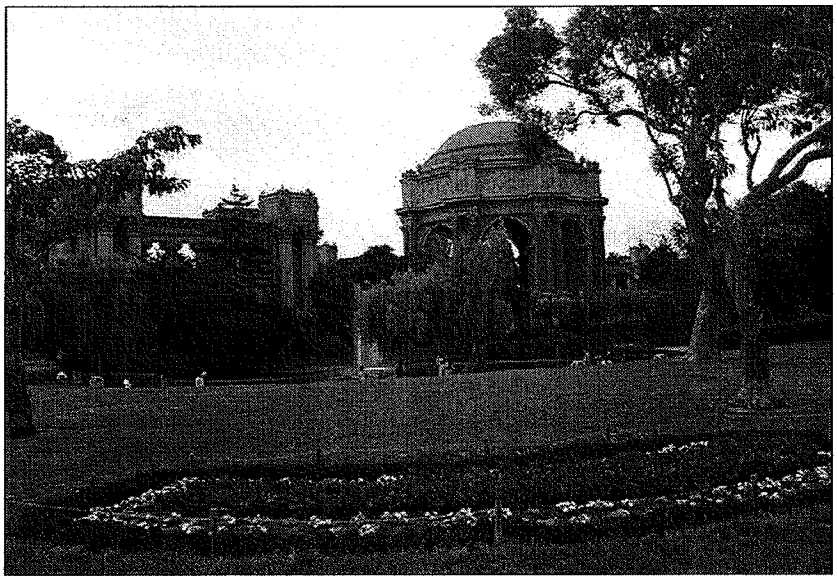

FIGURE 2. PALACE OF FINE ARTS, FACING NORTHWEST

As with Building 106, vibration analysis of the Palace of Fine Arts will inform engineers and historical architects how best to stabilize and/or protect these resources throughout construction. The lagoon is clay lined and the water table beneath it is quite high. Should any vibrations result in cracking the lining, the clay will reconsolidate; should any leakage occur, it will be temporary due to the high natural water table. The property owner, the San Francisco Recreation and Parks Department, has recently completed an HSR; its findings will be considered in conjunction with the vibration analysis.

7.1.6 Elevation Surveys

Project plans, geotechnical findings, and pre-condition surveys will identify buildings that need elevation surveys. Three months prior to any impact work, a professional land surveyor will conduct elevation surveys to obtain vertical elevations of these buildings. A minimum of three points will be recorded at each building, and the equipment will be capable of measuring changes in elevations to the nearest .005 inches. Three calendar days prior to the beginning of any impact work, the surveyor will document the elevations again, comparing them to the baseline elevations previously established. Should any change be documented, the results will be verified and the buildings will be stabilized as needed, following the Secretary of the Interior's standards for the treatment of historic properties. Should this be necessary, construction in the area may need to be delayed or redirected.

Should no change in elevation be indicated between the baseline originally established and the more recent survey, the elevation will continue to be documented at each point three times per construction shift. If there is a variation in elevation of .118 inches or more, the impact work or dewatering will be immediately halted and the construction methods will be modified to eliminate future fluctuation in elevations. After the impact work or dewatering is completed in the specified location, the elevations will be documented on a daily basis for five days, at which time a report documenting the monitoring will be prepared and verified by a professional land surveyor.

7.2 PRE-CONSTRUCTION CONDITIONS ASSESSMENT

Stipulation III.A.1.c of the PA states that buildings and structures that are in close proximity to construction, and for which no construction impacts are anticipated, will undergo pre-construction conditions assessments, but not be subject to a full HSR, during the pre-construction phase as a precautionary measure and to provide a baseline for a post-construction assessment. Conditions assessments are not included in Section 106 regulations; conditions assessments are generally undertaken for properties adjacent to construction activities regardless of historic significance. To avoid duplication of effort, condition assessments will be done in cooperation with Caltrans right-of-way agents or their contractors. Table 8 lists the buildings that will undergo this level or recordation. See Appendix C for maps showing the location of each of these resources.

TABLE 8: PRE-CONSTRUCTION CONDITION ASSESSMENTS BY PLANNING DISTRICT

Precondition Assessments
Main Post Planning District
Building 105 – Barracks and Mess Hall
Building 107 – Switching Station
Building 108 – Electric Shop
Building 122 – Gymnasium
Building 123 – Garage
Building 128 – Enlisted Family Housing
Building 129 – Enlisted Family Housing
Building 227 – Warehouse
Building 228 – Bakery
Crissy Field Planning District
Building 603 – Crissy Center
Buildings 631 and 632 – Ammunition Magazines
Building 649 – Reserve Center
Building 650 – Stilwell Hall
Building 651 – Administration Building
Building 652 – Transformer Vault
Building 654 – Guard House
Building 661 – Stable
Building 662 – Stable
Building 667 – Stable
Building 669 – Incinerator
Building 681 – Barracks
Building 682 – Enlisted Barracks and Mess
Building 683 – Day Room
Buildings 1182, 1183, 1184, 1185, 1186, 1187, and 1188 – Mason Street Warehouses
Batteries – Baldwin, Blaney, Slaughter, Sherwood

Precondition Assessments
Fort Scott Planning District
Building 966 – Radio
Building 967 – Film Vault
Buildings 1263, 1266, 1270, 1289, 1290, 1291, 1293 – Storey Ave. Enlisted Family Housing
Letterman Planning District
Building 1063 – Medical Supply Warehouse
Buildings 1151 and 1152 – Indoor Swimming Pool and Gymnasium
Buildings 1160, 1161, 1162, 1163, 1167, 1169, and 1170 – Gorgas Street Warehouses
South Hills Planning District
Edge of National Cemetery adjacent to Lincoln Boulevard, to first interior road
Building 150 – Mortuary Chapel
Building 151 – House
Building 152 – Restroom
Building 153 – Garage
Building 154 – Maintenance Garage
Outside of the PNHLD
Palace of Fine Arts and Lagoon

Conditions assessments will record the existing conditions of the historic built-environment resources, including structural condition and condition of exterior materials. The assessments will also examine important and fragile interior features and finishes, such as plaster and decorative elements, if warranted. Each conditions assessment will include current photographs of each elevation of the building and, where appropriate, interior views of significant features. Conditions assessments are not intended to inform evaluations of historic significance or integrity.

Based on the information from the conditions assessment and more detailed construction plans, measures such as protection and monitoring may also need to be implemented for some or all of these resources. If, based on the pre-construction conditions assessment coupled with project design information, measures are needed to protect these resources, or additional resources require protection, this treatment plan or other documentation will be amended accordingly, following established procedures described in Section 4.

7.2.1 Report Content and Format

Unlike most of the treatment measures discussed in this BETP, there is no published guidance specific to the preparation of stand-alone condition assessments. An HSR includes guidance for condition assessments; this guidance has been adapted for the preparation of pre-construction building and structure assessments for the purposes of this project. The format and content requirement is described here and will be applied to the resources as appropriate.

7.2.2 Initial Survey

A survey of each building and structure will be performed to document physical spaces and elements and to assess the current condition of building materials and systems. The surveys will be compilations of assessments performed by qualified architectural historians, architects, and, as appropriate, structural engineers. Additionally, these buildings will undergo 3-dimensional laser surveys that will provide a very high level of detail "draped" onto high-resolution digital photographs and incorporate GIS locational data as well as elevation information for each building.

Cracks and any other deficiencies, such as settlement, and leakage, will be specifically noted and recorded. Information gathered during the survey will be documented with field notes on baseline drawings or digital photographs. In addition, documentation will include videos to establish the context of the photographs. The survey and inspection will address the building's exterior and, in some cases, interior materials, features and finishes; structural systems; mechanical, electrical, and plumbing systems; and fire detection and security systems. Because the immediate site landscapes are covered in the HALS documentation, it is not necessary to include this in the surveys. Many of the features recorded may not be historic; as previously noted, conditions assessments are often procedural with construction projects. Access to occupied buildings, if needed, will be negotiated by the Trust.

7.2.3 Prepare Conditions Assessments

Technical evaluations by experienced professionals in each respective category will be undertaken to document the physical condition of each building. Professionals may include, but are not limited to, architectural historians, historical architects, photographers, videographers, surveyors, and structural engineers as appropriate, for each building and structure. The architectural historian or historical architect may determine that other professionals, such as a materials scientist or a conservator may be necessary, based on initial observations. The majority of the built resources that will be assessed are simple, utilitarian buildings and may not include many of the below-listed features. Features to consider and record, if present, include the following.

I. Condition of exterior elements
   a. Roofing material, roof gutters and downspouts, roof flashing and combs, lightning protection
   b. Roof system, including decks and roof type
   c. Rooftop mechanical and electrical equipment, including under-deck ventilation
   d. Flashing material
   e. Drainage systems, including drains, scuppers, gutters, downspouts and drain leaders
   f. Roof architectural features, including coursing, slope changes, profiles and shapes
   g. Evidence of leaks/overall weather tightness of roof
   h. Overhangs and soffits
   i. Wall finishes, point, wood siding, plaster, stucco, brick, stone and any other veneers
   j. Chimneys
   k. Porches and associated columns, railings, newels, balustrades, steps
   l. Trim and millwork
   m. Window sash, frames, casements, trim, glazing, hardware, and shutters
   n. Door leafs, frames, casement, trim, glazing, and hardware
   o. Light fixtures

II. Condition of interior elements
   a. Door leafs, frames, casement, trim, glazing, and hardware
   b. Stairs and associated railing, newels, balustrades, steps

c. Interior wall and ceiling finishes
d. Wall and ceiling coves
e. Trim and millwork
f. Finish floors
g. Fireplaces and associated millwork
h. Casework and associated millwork
i. Kitchen and bath plumbing fixtures
j. Light fixtures
k. Window sash, trim, hardware
l. Decorative radiators or vent registers
m. Built-in cabinetry and any other permanent features

III. Structural condition
a. Foundation
b. Floor framing
c. Roof framing
d. Wall framing/gravity load system
e. Lateral system

IV. Mechanical systems
a. Domestic water system
b. Sanitary sewer system
c. Plumbing fixtures
d. Heating systems
e. Ventilation systems
f. Fire-suppression systems

V. Electrical systems
a. Power systems
b. Lighting systems
c. Telecommunication systems

VI. Hazardous materials
a. Asbestos
b. Lead-based paint
c. Chemicals

Written assessments will be accompanied by photo documentation, drawings, and videos. Photographs will be in color and printed on glossy photographic paper; proof sheets, or contact prints are not acceptable. Digital photos will be printed in the highest resolution possible, and also be saved in JPEG file format. The videographer will contemporaneously narrate, documenting the location, orientation, time, and date of the scene. In addition to detailed descriptions of each deficiency, each assessment will include a summary report on the overall condition of the building or structure; a recommendation for protective measures, if needed, will also be included. Calibrated crack-monitoring devices with the ability to measure cracks to the nearest millimeter will be installed where any substantial existing cosmetic or structural cracks are found, and will be regularly checked as construction proceeds. The location of the crack gauges will be identified in the pre-construction conditions assessment report.

The TOP will review draft reports prior to the finalization of documentation. Once the assessment is final, and in conjunction with project plans, it will be used to inform the protection methods to be applied during demolition and construction. It may also be necessary to carry out more than one pre-construction survey for some buildings, particularly when there are substantial periods of time between different construction activities that might affect a given building.

Because the impetus for the preparation of these reports is for the protection and treatment of these buildings in conjunction with the Undertaking, a site copy of all the reports will be provided to the architectural monitor for reference and note keeping. Upon completion of the Undertaking, a post-project conditions assessment report will be prepared that will include pre- and post-project conditions assessments, documentation of any repair work needed/completed, and a record of the success/failures of protection measures and monitoring. The recordation will include photographs and annotated drawings, as applicable. Should it be necessary to compare pre- and post-construction condition at a high level of detail, the building(s) in question will be rescanned using the 3-dimensional laser equipment. For the location of the buildings that will be subject to condition assessments, refer to Appendix C, Maps.

7.3 STABILIZATION

Prior to demolition or construction, masonry-constructed Buildings 106 (Figure 1) and 228 (Figure 3) require stabilization to ensure that they will not be damaged by project construction activities that will occur in close proximity. HABSs and HSRs will be undertaken for these two buildings. These reports, in conjunction with construction plans, will inform the extent and manner of stabilization necessary. Stabilization measures will be determined by structural engineers with demonstrated experience in working with unreinforced-masonry buildings and will be included in project plans and specifications. In addition, after pre-construction condition assessments, HSRs, and construction plans are reviewed, it may be necessary to develop stabilization measures for additional buildings. All stabilization designs will be reviewed by the TOP for appropriateness and adherence to the Secretary of the Interior's standards for the treatment of historic resources. The Section 106 communication and review procedures defined in Section 4 will be followed should this be necessary.

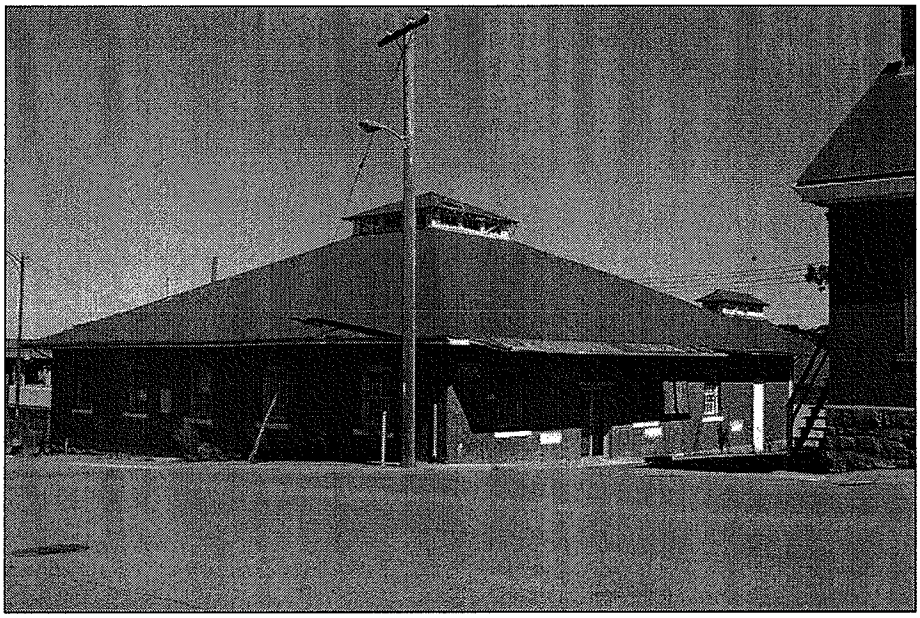

FIGURE 3. BUILDING 228, FACING NORTHEAST

Stabilization will involve structural reinforcement and may also include correcting conditions of deterioration to minimize potential structural failures or accelerated damage resulting from nearby project construction. The standard for this treatment is the preservation of the character-defining features of a historic building or structure. Stabilization may temporarily impair the historic integrity of a building's design or setting but must be designed in such a manner that will not permanently impair a building's

historic integrity of materials or workmanship upon completion of the Undertaking and subsequent removal of the application. Some repair to building materials may be necessary after project construction is completed and stabilization structures are removed. The stabilization treatment and any pre- or post-construction repairs will be conducted in compliance with the Standards.

The stabilization for Building 106 may consist of approximately 100 feet of temporary underpinning to provide structural stabilization during construction; it may or may not be removed following construction. Figure 4 illustrates a typical underpinning similar to what may be used to support Building 106, pending recommendations from structural engineers and review by the TOP. The placement, and subsequent removal, of the underpinning will be designed and installed in a manner that protects the historic integrity of the building, and be consistent with the Standards and NPS *Preservation Tech Note, Temporary Protection Number 3: Protecting a Historic Structure During Adjacent Construction* (National Park Service 2001. Rehabilitation of Building 106 to the condition as documented in the HSR, if necessary, will occur post-construction. Because there is the potential that the stabilization structure should remain in place following construction, it will be initially designed and implemented in such a manner that is consistent with the Standards.

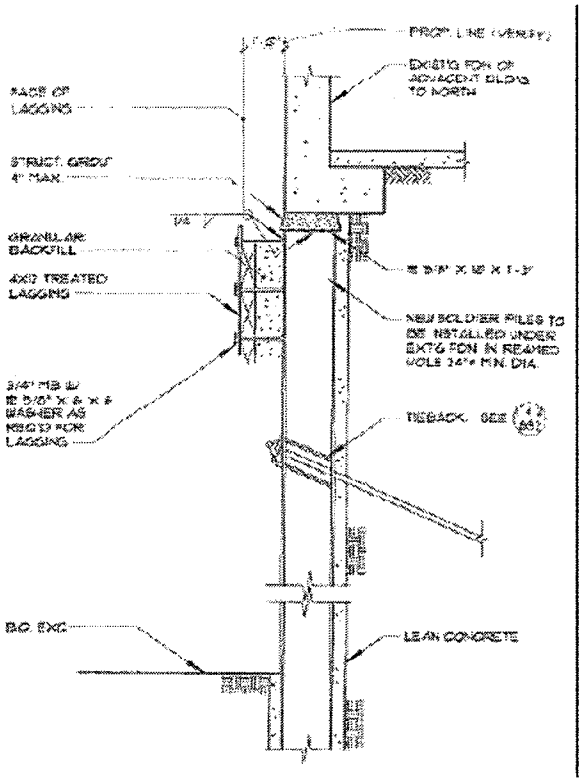

FIGURE 4. TYPICAL UNDERPINNING FOR STABILIZATION

Stabilization of buildings and structures will be in place prior to demolition of the current facility and construction of the new Doyle Drive, and scheduled by construction phase. Additional stabilization may be necessary during construction in response to inadvertent damage or as indicated by vibration or elevation monitoring. Monitoring of the stabilization treatments will continue throughout construction (Section 7.4).

7.4 PROTECTION MEASURES AND MONITORING

Sections III.A.1.g and h of the PA stipulate that protection measures and a monitoring plan will be implemented for buildings and other historic resources that are in close proximity to the Undertaking but are not anticipated to be impacted by demolition or construction activities related to the Undertaking. Section III.A.1.e stipulates that appropriate steps will be taken to ensure that Buildings 201, 204, and 230 will be protected until they are moved and/or deconstructed; uninhabited Building 670, which will be demolished, will not undergo protective measures other than those which are currently in place.

Precautions to protect existing buildings, structures and cultural landscape features will be implemented as necessary, many of which are commonly used in construction areas to avoid costly mishaps and are not limited to the protection of historic resources. Protection measures may include, but will not be limited to, structural shoring and stabilization, fencing, temporary mothballing, fire and intrusion protection, and other measures as determined necessary. Project plans and specifications will indicate that all of these buildings are environmentally sensitive and will be identified as such on site. Pre-construction recordation treatments, including HABS/HAER/HALS documentation, HSRs, and condition assessments will be used to inform the precise and best method of protection, avoidance, and monitoring treatments specific to each resource, in conjunction with the Undertaking's demolition and construction plans. Construction plans are not yet detailed enough to enable specific protective measures and monitoring procedures to be defined for each contributing resource; however, general application and protocols are described below. Protective measures by resource will be fully developed and presented in the MIP. Table 9 lists the historic resources that will be protected during demolition and construction. If any pre-construction analysis indicates that protection is necessary for additional historic properties within the APE, protection treatments will also be developed for those resources. Reporting of changes will follow protocol defined in Section 4.

TABLE 9. HISTORIC RESOURCES THAT WILL BE PROTECTED DURING DEMOLITION AND CONSTRUCTION

Buildings/Structures	Potential Risk	Type of Protection Measures*
Main Post		
105 – Barracks	Adjacency of construction activities and equipment	Scaffolding with debris meshing, appropriate barrier to be determined, monitoring of efficacy of barriers
106 – Band Barracks	Destabilization of building during construction, flying debris, close proximity to construction activities, construction vibration	Stabilization, scaffolding with debris meshing, vibration monitoring, temperature and humidity monitoring, monitoring of efficacy of barriers
107 – Switching Station	Adjacency of construction activities and equipment	Monitoring
108 – Electric Shop	Adjacency of construction activities and equipment	Monitoring
122 – Gymnasium	Adjacency of construction activities and equipment	Monitoring
123 – Garage	Adjacency of construction activities and equipment	Monitoring
128 – Enlisted Family Quarters	Adjacency of construction activities and equipment	Monitoring
129 – Enlisted Family	Adjacency of construction	Monitoring

Buildings/Structures	Potential Risk	Type of Protection Measures*
Quarters	activities and equipment	
201 – Exchange	Moved, temporarily stored, partially deconstructed and partially rehabilitated	Stabilization, mothballing, fire and intrusion prevention, monitoring to ensure that protective measures are intact throughout construction
204 – Exchange	Deconstructed	Fire and intrusion prevention until it is deconstructed and salvaged
222 – Warehouse	Adjacency of construction activities and equipment	Monitoring
223 – Warehouse	Adjacency of construction activities and equipment	Monitoring
227 – Warehouse	Adjacency of construction activities and equipment	Monitoring
228 – Bakery	Adjacency of construction activities and equipment	Stabilization, monitoring of efficacy of barriers
229 – Bakery	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
230 – Warehouse	Deconstructed	Fire and intrusion prevention until it is deconstructed and salvaged
Crissy Field		
603 – Crissy Center	Adjacency of construction activities and equipment	Monitoring
631 – Ammunition	Adjacency of construction activities and equipment	Monitoring
632 – Ammunition	Adjacency of construction activities and equipment	Monitoring
649 – Reserve Center	Adjacency of construction activities and equipment	Monitoring
650 – Stillwell Hall	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
651 – Administration	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
652 – Transformer Vault	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
654 – Guardhouse	Adjacency of construction activities and equipment	Scaffolding with debris meshing, Monitoring of efficacy of barriers
661 – Stable	Adjacency of construction activities and equipment	Monitoring
662 – Stable	Adjacency of construction activities and equipment	Monitoring
667 – Stable	Adjacency of construction activities and equipment	Monitoring
669 – Incinerator	Adjacency of construction activities and equipment	Monitoring
681 – Barracks	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers

Buildings/Structures	Potential Risk	Type of Protection Measures*
682 – Enlisted Barracks and Mess	Adjacency of construction activities and equipment	Monitoring
682 – Warehouse (Day Room)	Adjacency of construction activities and equipment	Monitoring
1182 – Warehouse	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
1183 – Warehouse	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
1184 – Warehouse	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
1185 – Warehouse	Adjacency of construction activities and equipment	Monitoring
1186 – Warehouse	Adjacency of construction activities and equipment	Monitoring
1187 – Warehouse	Adjacency of construction activities and equipment	Monitoring
1188 – Warehouse	Adjacency of construction activities and equipment	Scaffolding with debris meshing, monitoring of efficacy of barriers
Battery Sherwood	Adjacency of construction activities and equipment	Monitoring
Battery Slaughter	Adjacency of construction activities and equipment	Monitoring
Battery Blaney	Adjacency of construction activities and equipment	Monitoring
Battery Baldwin	Adjacency of construction activities and equipment	Monitoring
Fort Scott		
966 – Radio	Adjacency of construction activities and equipment	Monitoring
967 – Film Vault	Adjacency of construction activities and equipment	Monitoring

Buildings/Structures	Potential Risk	Type of Protection Measures*
1263 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1266 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring
1270 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring
1289 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring
1290 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring
1291 – Enlisted Family Housing	Adjacency of construction activities and equipment.	Monitoring.
1293 – Enlisted Family Housing	Adjacency of construction activities and equipment	Monitoring
Letterman		
1063 – Medical Supply	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1151 – Pool	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1152 – Gym	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1160 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1161 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1162 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1163 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1167 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers. Due to proximity of new roadway, protective measures may become more strident as design becomes more specific
1169 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
1170 – Warehouse	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
South Hills		
National Cemetery to First Road	Adjacency of construction activities and equipment	Monitoring of efficacy of barriers
Building 150 – Mortuary Chapel	Adjacency of construction activities and equipment	Monitoring
Building 151 – House	Adjacency of construction activities and equipment	Monitoring
Building 152 – Restroom	Adjacency of construction activities and equipment	Monitoring

Buildings/Structures	Potential Risk	Type of Protection Measures*
Building 153 – Garage	Adjacency of construction activities and equipment	Monitoring
Building 154 – Maintenance Garage	Adjacency of construction activities and equipment	Monitoring
Outside of the PNHLD		
Palace of Fine Arts Rotunda	Adjacency of construction activities and equipment	Vibration monitoring, if deemed necessary by vibration studies
Landscape Features		
Vegetation in PNHLD	Adjacency of construction activities and equipment	Vegetation to be protected will be defined by the findings of the HALS and selection will be contingent upon project plans

* Protection measures listed above may change, depending upon the results of pre-construction conditions assessments.

7.4.1 Protection Measures for Buildings, Structures, and Landscape Features

As previously stated, the specific treatment by resource, as well as treatment schedule, will be described in detail in the MIP. Caltrans and SFCTA, in consultation with the Trust FPO, and NPS–Golden Gate, will define these measures. Additionally, the contractor will be required to submit a site-specific, written and mapped-format safety plan based on the TOP's recommendations for protective measures. The safety plan will be reviewed and must be approved by the TOP, and protection measures must be in place prior to the commencement of any demolition or construction activities in that area. The placement and type of protection will also be indicated in construction plans and specifications.

Protective measures and the safety plan will clearly indicate access and boundary limitations with the use of signed fencing including, but not limited to, orange nylon-mesh fencing commonly used to demarcate environmentally sensitive areas (ESAs), chain-link fencing, plywood, and/or k-rail as appropriate. Fences will be placed entirely around vacant buildings listed in Table 9, and they will be constructed in a manner to deter entry into those buildings and be implemented to the specifications of the Trust and be consistent with the Standards. Some windows may need to be covered with plywood, and it may be necessary for scaffolding to be constructed on some buildings to provide a framework for debris netting. The pre-construction condition assessments will state and the MIP will specify how best and when to attach and remove the protection to prevent damaging historic material.

If space and logistics permit, fencing will be placed at the drip lines of identified historically significant trees. Fencing will be temporary self-supporting 6-foot-high, 2-inch mesh chain-link fence, unless otherwise approved, and form a continuous barrier without entry points around all individual trees. The fencing will serve as a barrier to prevent encroachment of any type of construction activity, equipment, materials storage, and personnel. Ropes, cables, guys, or signs will not be attached to trees. Trenching or excavating within the 10-foot tree protection zone will not be permitted. Hand digging within the 10-foot tree protection zone may be permitted with written authorization from the Presidio Forester.

Additional protective measures may include maintenance of HVAC units in historic buildings during construction, installation of temperature and humidity monitors in buildings left empty for long periods of time, and adequate drainage systems to ensure that water will be properly drained away from buildings near the construction zone.

The service district charge will be paid for all unoccupied buildings within the temporary construction easement as a means to provide fire and intrusion protection. Other fire safety protocol includes the safe use of portable heating equipment and cutting/welding/soldering torches as well as appropriate provisions to restrict smoking, such as establishing specific areas of the project construction site where smoking will be permitted. Combustible materials will not be placed near historic buildings. Fire extinguishers will be readily available and monitoring will be in place when cutting, welding, soldering occurs near historic buildings. Fire and emergency-vehicle access to historic buildings will be maintained at all times. Water service will remain or be connected near historic buildings.

7.4.2 Monitoring Protocol

While it will be the responsibility of the contractor to install and maintain all avoidance materials, once the materials are installed, SFCTA and Caltrans will monitor the condition of the materials and their protective efficacy weekly, throughout demolition and construction. The installation and monitoring schedule will be defined by the demolition and construction schedule and will be included in the MIP. In areas where intensive demolition or construction activities are underway, such as during the demolition of the high viaduct or the excavation of the tunnels, a full-time architectural monitor will be present. A monitoring diary will be kept daily; digital photographs will be taken as needed. The monitor will have a field binder of completed and approved conditions-assessment reports on hand so that any indication of damage will be quickly verified. The monitor will summarize his/her findings on a weekly basis, and electronically file the reports with SFCTA, Caltrans, the Trust, and NPS–Golden Gate. Monitoring reports will be summarized in the MMR.

Should either the monitor or the contractor identify any damage, the contractor will cease work in the proximity of the damage and immediately inform SFCTA, Caltrans, and the Trust Project Manager. The Trust Project manager will in turn immediately inform the Trust FPO; SFCTA and Caltrans will inform the PA signatories. While actions to check any continued damage will be immediately taken, in consultation with the Trust FPO, it will be determined if the damage needs to be repaired immediately to prevent further damage or if it is most prudent to adjust protective measures and/or construction methods, stabilize the building, and postpone repair until after construction has been completed. If immediate repair of damage is determined to be the best recourse, Caltrans and SFCTA will submit plans to the Trust FPO for review and comment. Secretary of the Interior's standards will be applied in the implementation of all repair work. Notification procedures will follow those described in Section 4.

Monitors will be in regular communication with the Resident Engineer (RE) and participate in construction meetings to ensure that they, the monitors, are current regarding project schedules, phased construction, constructability issues, and alteration of plans or construction methods. The monitors will also be sure that the contractor and RE are fully informed of avoidance and protection requirements. Should there be any changes, the monitor(s) will inform SFCTA and Caltrans so that any necessary adjustments to mitigation plans or schedules can be made.

7.4.3 Monitoring and Protection of Buildings Adversely Affected

Buildings 201, 204, 230, and 670 will be adversely affected by the Undertaking. Buildings 201, 204, and 230 will be protected with the commencement of pre-construction activities at a time dictated by the Trust permit, and prior to moving and/or deconstruction. Building 670 is currently vacant and will likely remain so until it is demolished. No additional security than that which is currently in place will be implemented prior to its demolition.

Building 204 will be secured to prevent access by unauthorized persons and made weather-tight, following the Standards to ensure that the components to be salvaged are not damaged by further deterioration. A fire and intrusion alarm system will be installed and remain activated until the building is deconstructed. Similarly, once it is vacated, Building 230 will also be secured to prevent trespassing and weather intrusion to maximize its salvage potential. A fire and intrusion alarm system will also be installed and in use until the building is deconstructed. Work necessary to stabilize these structures and prevent water from entering will be informed by the HABS report.

Building 201, which will be moved, partially deconstructed, and partially rehabilitated, will be protected in place until its lower story is deconstructed and the upper story is temporarily relocated. Proper protection will allow for higher-quality rehabilitation. Therefore it will be mothballed using guidance from *Preservation Brief 31: Mothballing Historic Buildings,* as well as recommendations presented in the *Draft Relocation Feasibility Study: Presidio of San Francisco National Landmark District Buildings 201, 204, and 228* (Garavaglia Architecture 2006) (Feasibility Study). The degree of protection necessary to stabilize the upper floor and protect original features for either salvage or rehabilitation prior to the preparation for the move will be informed by the HABS and HSR. At a minimum, a fire and intrusion alarm will be installed and it will be protected from water infiltration.

It is likely that Building 201 will be moved in as many as three sections. Moving the building is discussed in Section 9, and options are detailed in the draft Feasibility Study. At a minimum, a temporary foundation with adequate drainage and clearance for ventilation will be constructed. During storage the segments will be protected either by a shed-roofed structure or full repairs will made to the roof and exterior seams to prevent moisture infiltration, following the Standards for rehabilitation. If the roof and seams are repaired, gutters and downspouts will be installed and maintained for the duration of the storage period. During the Undertaking, both before it is moved to its temporary location and during its storage period, it will be monitored on a weekly basis. An intrusion and fire alarm system, and a temperature and humidity monitoring system will be installed and remain in use until the building is moved to its final destination and subsequently rehabilitated.

7.5 HISTORIC STRUCTURE REPORTS

PA Stipulation III.A.1.c states that Caltrans and the SFCTA will prepare HSRs for each historic property or contributing building within the PNHLD that will be affected by the Undertaking and are not to be demolished. HSRs may also be prepared for buildings that are not expected to be adversely affected by the Undertaking, but where detailed information is needed to assess what avoidance and protection measures are required to prevent adverse effects.

An HSR is a multidisciplinary task undertaken by historians, architectural historians, architects, structural engineers, photographers, and other specialists to provide documentary, graphic, and physical information about a property's history and existing condition. Buildings subject to HSRs are Buildings 106, 201, and 228 (Table 10). Although the general content of these reports will be consistent for these three buildings, the goal or emphasis of the reports differs due to the ultimate plans for each of these buildings, their

vulnerability due to their condition or construction type, adjacency to the Undertaking, and the alteration of their setting.

TABLE 10: BUILDINGS THAT WILL UNDERGO HISTORIC STRUCTURES REPORTS

Buildings	Potential Risk/Ultimate Plan	Emphasis of Historic Structures Report
106 – Band Barracks	Construction of a cut-and-cover tunnel is immediately adjacent to this two-story brick building	• Vibration analysis • Stabilization recommendation • Identify character-defining features should unanticipated damage occur
201 – Exchange	The top floor of this wood-frame building will be moved, saved, and replaced to its original location The ground floor will be deconstructed for salvage	• Identify salvageable material • Identify structural integrity and construction method to determine least-harmful and most-efficient method to remove and move the top floor • Inform plans for rehabilitation of building when replaced in original location
228 – Bakery	Street adjacent to this brick building will be raised	• Vibration analysis • Stabilization recommendation • Identification of character-defining features to inform rehabilitation plans for the altered streetscape

Because no alteration is planned for buildings 106 or 228, HSRs will provide thorough documentation of each of these buildings that will to enable professionals to determine appropriate methods to adequately and properly protect them from adverse effects resulting from near-by construction activities. Should construction cause unanticipated adverse effects to any of these buildings, HSRs will provide documentation of pre-construction conditions and provide guidance when determining the most appropriate approach to treatment and scope of recommended repair work. Should damage occur, the goal is to minimize the loss of historic fabric or significance and to ensure the preservation of the historic character of these buildings.

An HSR will also be prepared for Building 201, which will be partially deconstructed and temporarily moved. The report will provide information that will enable the Trust to identify which building materials should be salvaged from the ground floor, and document the structural integrity of the building to inform how best to remove the top floor, move it, temporarily maintain it, replace it on a new foundation close to its original location, and, finally, rehabilitate it according to the Standards and the Trust's requirements for safety and accessibility.

These HSRs will be prepared in accordance with NPS-published HSR guidance found in *Preservation Brief 43: The Preparation and Use of Historic Structures Reports* (National Park Service 2005a) and the California Office of Historic Preservation's published HSR guidance. The HSRs will be prepared prior to construction and will utilize data collected for the preparation of the other recordation treatments described in this section, as applicable. Although the appropriate professionals or specialists will conduct

the documentation tasks for each HSR, a principal author/project lead person will compile each report. The reports will include the following:

1) Cover Page
2) Table of Contents
3) Introduction
   a) Study Summary
   b) Project Data
4) Part 1: Developmental History
   a) Historical Background and Context
   b) Chronology of Development and Use
   c) Physical Description
   d) Evaluation of Significance
   e) Condition Assessment (see *Pre-Construction Conditions Assessments*, Section 7.2 above)
5) Part 2: Protection Recommendations
6) Part 3: Post-Project Record

The selected principal author will initially provide a list of specialists and their qualifications and a schedule of work to be performed for the approval of Caltrans, SFCTA, and the Trust FPO. The Trust FPO and NPS–Golden Gate will provide a contact list for the principal author/project lead to ensure efficient and timely access to the buildings and records.

Upon completion of the first drafts, Caltrans, SFCTA, NPS–Golden Gate and the Trust FPO will have an opportunity to review and provide comments on the adequacy of the reports. Once the reports are completed and determined to be satisfactory, each will be transmitted to FHWA for approval and submittal to the SHPO for a 30-day review. No construction activity will take place in the area of the buildings subject to HSRs prior to the SHPO's approval of the reports. Upon approval, final bound copies will be provided to the SHPO, Trust FPO, NPS–Golden Gate, FHWA, ACHP, Caltrans, SFCTA, and concurring parties as appropriate. Additionally, protection measures will be incorporated into the Undertaking's plans and specifications.

Because the impetus for the preparation of these reports is for the protection and treatment of these buildings in conjunction with the Undertaking, site copies of the conditions-assessment portions will be provided to the architectural monitor for reference and note keeping. Upon completion of the Undertaking, post-project structures reports will be prepared that will include pre- and post-project conditions assessments, documentation of any repair work needed/completed, and records of the success/failures of protection measures and monitoring. The recordations will include photographs and annotated drawings, as applicable. The post-project structures reports will be considered supplemental documents to the HSRs and be distributed to the recipients of the original reports. For the location of the buildings that will be subject to HSRs, refer to Appendix C, Maps.

SECTION 8: MEASURES TO MINIMIZE HARM: ARCHITECTURAL CRITERIA

PA Stipulation III.A.1.a states that Caltrans and the SFCTA, in consultation with the Trust FPO and NPS, will prepare criteria that will be utilized in the design process for the Undertaking's new roadway. This document has been prepared as a separate document from this treatment plan; it follows the body of the BETP as Appendix B.

The development of the Architectural Criteria (AC) was a collaborative effort among architectural historians, landscape architects, historical architects, architects, planners, and engineers, representing the cooperating agencies and stakeholders. Participants included representatives from the Trust, NPS–Golden Gate, SFCTA and Caltrans. Interested party and public input was sought at a meeting of the Doyle Drive Subcommittee of the Citizens Advisory Committee, as well as a subsequent meeting to present further-developed criteria. Please see Architectural Criteria, Appendix B, for more in-depth discussion on the development process and the criteria themselves.

The criteria were developed with the understanding that, because of engineering, safety, and traffic requirements, the Secretary of the Interior's recommended treatment of historic properties is only one of many aspects to consider in the design of the new Doyle Drive. Therefore, the criteria were developed to provide both historic-context-sensitive design and aesthetic guidelines to mitigate the loss of the existing Doyle Drive as it relates to the PNHLD and provide the driver with a continuous and unified visual experience from the north abutment of the Golden Gate Bridge to the east end of the parkway.

In brief, the criteria recommend design elements for the new Doyle Drive facility that are reminiscent of historic character-defining features while integrating the roadway into the existing PNHLD landscape. An objective is to minimize the visual impact to pedestrians and other Presidio users and, where there is the opportunity, to enhance the historic connectivity of the different functional areas found throughout this historic landmark district. The criteria are organized by the roadway itself and by eight distinct landscape settings that the roadway crosses as it progresses through the Presidio. These settings or units are subdivided by location and the facility's construction type, but are not independent from one another. The eight landscape units, from west to east, and the objectives of the architectural criteria for each are as follows in Table 11.

TABLE 11: ARCHITECTURAL-CRITERIA OBJECTIVE

West Parkway	Create a parkway character that is distinct from a typical highway experience
Veterans Boulevard Interchange	Maintain and enhance the vegetative screening that currently exists
High Viaduct	Enhance the views from the Cavalry Stables to Crissy Field and further north to the San Francisco Bay and Angel Island
Battery Bluff	Reestablish the historic connection to the batteries and enhance the feeling of the bluff as an observation point
Main Post Parkway	Create a visual link between the Battery Bluff and the

	Main Post Bluff as seen from Crissy Field
Main Post Bluff	Evoke the form of the historic bluff between the Main Parade and Crissy Field and maximize physical and visual connectivity
Quartermaster	Establish a connection to Crissy Field and ensure that pedestrian circulation is continued in this area
East Parkway	Create a parkway character that is distinct from a typical highway experience

The Architectural Criteria, as attached to this treatment plan, is in the process of being applied to the design of the Undertaking. A second series of workshop meetings have begun in order to use the criteria to inform and guide the development of the structures and landscape design throughout the project corridor. Participants from the different agencies are identified in the Architectural Criteria as the Design Concepts Working Group. Senior staff from these same agencies, identified as the Architectural Steering Panel, will review the resulting design concepts for consistency with overall project goals; these participants are also identified in the Architectural Criteria.

SECTION 9: MEASURES TO MITIGATE ADVERSE EFFECTS

Measures to mitigate adverse effects include the recordation of affected properties to the standards of HABS/HAER/HALS; moving, storage, rehabilitation of one affected building (201); the salvage of buildings planned for deconstruction (part of 201, all of 204 and 230); rehabilitation of affected resources; reevaluation of the significance of affected properties; updating National Historic Landmark documentations; interpretation; and final reporting.

9.1 HABS/HAER/HALS

PA Stipulation III.A.1.b states that, prior to the commencement of deconstruction of Buildings 201, 204, 230, and the demolition of Building 670 and Doyle Drive, excavation within the Presidio historic landscape, as well as any construction in the vicinity of Buildings 106 and 228, Caltrans and SFCTA will complete recordation documentation of these resources in accordance with the Historic American Building Survey/Historic American Engineering Record/Historic American Landscape Survey (HABS/HAER/HALS) program.

This program is a federal program within the National Park Service that is charged with creating a permanent, publicly accessible record of significant historic buildings, sites, structures, objects, and landscapes with measured drawings, large-format photographs, and written histories to produce a comprehensive, interdisciplinary record. Guidance for HABS/HAER is found in the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards* (National Park Service 2000). HALS guidance can be found in the *Historic American Landscapes Survey: Guidelines for Historical Reports* (National Park Service 2005b).

There are four levels of documentation prescribed by the NPS to be considered adequate for inclusion in the collections. Caltrans and SFCTA is currently in consultation with the NPS Pacific West Regional Office HABS/HAER/HALS program coordinator, on behalf of FHWA and with the involvement of the Trust FPO, to determine the level and kind of recordation appropriate for each historic property or contributing element subject to this treatment. Caltrans and SFCTA will ensure that all recordation is completed before project demolition and construction begin in the areas adjacent to the active construction contract.

The Trust and the NPS–Golden Gate have a significant amount of existing documentation that will be used whenever possible to avoid duplication of efforts in the recordation of the subject properties. These include previous HABS documentation for buildings of similar type or use, construction drawings, and photographs. A thorough inventory of other existing documentation will be undertaken prior to beginning any HABS/HAER/HALS documentation. A list of HABS/HAER/HSRs already completed for buildings and structures within the PNHLD, the Golden Gate Bridge, and the Palace of Fine Arts is located in Appendix D.

A *Cultural Landscape Report for the Presidio of San Francisco National Historic Landmark District and Palace of Fine Arts* (2004) was prepared as an appendix to the final FOE. This document provides a history of the development of portions of the cultural landscape and describes the cultural landscape features and characteristics of the Presidio and the Palace of Fine Arts that are within the Undertaking's focused architectural APE. This report was organized by planning districts as defined by the Trust. The discussion within each planning district or sub area is divided into three parts: 1) a narrative that explains the history of the development of the cultural landscape; 2) a description of the major cultural landscape characteristics; and 3) a list of the contributing features identified in the Presidio NHL Update (1993).

This report will provide a significant amount of background information and is a tool with which to organize the HALS documentation.

The HABS/HAER/HALS documentation will be undertaken prior to demolition and all construction activities, and will be used to inform other treatment measures. These other measures include HSRs for Buildings 106, 201, and 228; the vibration study and stabilization measures for Building 106; the deconstruction and salvage of Buildings 201, 204, and 230, the minimal salvage of Doyle Drive; the moving, storage and rehabilitation of part of Building 201; and post-construction landscape rehabilitation. The recordation documentation will also provide data for the application of architectural criteria described in Section 8. The HABS/HAER/HALS recordation and documentation data will also inform the interpretation treatments and may inform responses to inadvertent damage to Building 106, Building 228, the top story of Building 201, and landscape features, if necessary.

Table 12 identifies resources subject to HABS/HAER/HALS, which programs are applicable for which resources, and the focus or purpose of the recordation as it pertains to the Undertaking.

TABLE 12. LIST OF PROPERTIES SUBJECT TO HABS/HAER/HALS RECORDATION

Resources to be Recorded	Reason for Recordation
Historic American Building Survey	Documentation includes measured drawings and photographs of floor plans, elevations, architectural details, construction elements, and written history
Building 106 – Band Barracks	To be recorded due to construction proximity, as a precautionary measure and to aid in informing stabilization methods
Building 201 – Exchange	Ground floor will be deconstructed and salvaged, top floor will be temporarily moved, preserved, replaced to its original location, and rehabilitated. HABS will record the building before it is significantly altered. Recordation will also aid in informing best means of stabilization for moving and rehabilitation
Building 204 – Exchange	Will be deconstructed and salvaged. HABS will identify character-defining features and historic materials appropriate for salvage
Building 228 – Bakery	To be recorded due to significant alteration of the site and as a precautionary measure and to aid in informing stabilization methods
Building 230 – Warehouse	Will be deconstructed and salvaged. HABS will identify character-defining features and historic materials appropriate for salvage
Building 670 – Chemical Warehouse	Will be demolished. HABS serves as record of this contributor prior to the loss of the building
Historic American Engineering Record	Documentation includes measured drawings, photographs, and written history
Doyle Drive	Will be demolished, with minimal salvage. HAER serves as record of this eligible and contributing property prior to its demolition. HAER will also identify character-defining features and historic materials appropriate for salvage.

Historic American Landscape Survey	Documentation includes drawings, photographs, and written history of all aspects of the landscape, including, but not limited to buildings, roads, sidewalks, paths and trails, stairs, retaining walls, swales and associated drainage structures, light posts and utility structures, fencing, plants, trees, and shrubs. The survey will be organized parallel with *Cultural Landscape Report for Presidio of San Francisco National Historic Landmark District and Palace of Fine Arts* (2004), which was organized by Presidio planning districts as defined in the Trust's Management Plan (2002a)
Batteries: Sherwood, Blaney, Baldwin, Slaughter	Surrounding landscape will be significantly altered
Significant landscape features: Bluff	To accommodate the tunnels, much of the bluff, which influenced the settlement pattern of the Presidio, will be lost or altered. To be recorded as it relates to upper and lower post
Portion of Planning Districts within architectural APE: Fort Winfield Scott: Story Avenue enlisted family quarters area South Hills: portion of the National Cemetery adjacent to Lincoln Boulevard Crissy Field: Area beneath the high viaduct, stables, batteries, Mason Street warehouses Main Post: Quartermaster Depot, bluff, stone wall at Buildings 228 and 229 Letterman: Gorgas Warehouses Compound	Surrounding landscape will be altered. To be recorded as a cluster of related structures, landscape features, circulation networks
Streets: Cowels Street Bank Street Battery Blaney Road Crissy Field Avenue Girard Road Halleck Street Lincoln Boulevard Park Presidio Boulevard Richardson Avenue Vallejo Street	Recordation will include streets, visual character of cultural landscape adjacent to the streets, and street features such as, but not limited to, plantings, curbs, gutters, storm drains, lighting, signage, and facades of associated buildings and structures

Upon completion of the first drafts, Caltrans, SFCTA, the Trust FPO, and NPS–Golden Gate will have an opportunity to review and provide comments on the adequacy of the reports. Once the reports are completed and determined to be satisfactory, each will be submitted to the SHPO for a 30-day review. No construction activity will take place in the area of the resources subject to recordation prior to the TOP's and SHPO's agreement that the resources were adequately recorded. Upon approval, the reports

will be compiled and finalized and final bound copies will be provided to the SHPO, Trust FPO, NPS–Golden Gate, FHWA, ACHP, Caltrans, and SFCTA, and concurring parties, as appropriate. Final reports will also be distributed to the Northwest Information Center at Sonoma State University, the Library of Congress, and other interested parties, as appropriate. A map identifying the location of the buildings, structures, and landscapes subject to this treatment can be found in Appendix C.

9.2 MOVING, STORING, AND PROTECTING HISTORIC BUILDING 201

PA Stipulation III.A.1.e and i includes a commitment that, for Building 201, Caltrans and SFCTA will remove the upper story from its existing location and store it securely while the Undertaking is being constructed and then rehabilitate the top story of the building in a manner that preserves as much of the building's historic fabric as possible.

Building 201 (Figure 5) is the only building that will be moved and stored as a result of the Doyle Drive project. The ground floor of the building will be deconstructed and salvaged; the upper floor will be saved and, after construction is completed, a new foundation will be constructed and the single story will put back near its current location and, finally, rehabilitated. The building will be protected prior to moving and will continue to be protected and monitored during and after construction until rehabilitation is completed (see Section 7.4). To the extent feasible, the moving, storing, protecting, and rehabilitating of Building 201 will be conducted in accordance with the Standards.

FIGURE 5. BUILDING 201, FACING NORTHWEST

The process for moving will follow the approach outlined in *Moving Historic Buildings* (John Obed Curtis, 1979, American Association for State and Local History) and will adhere to the recommendations outlined in the draft Feasibility Report. In addition, a professional mover with demonstrated experience in successfully moving historic buildings will move Building 201. These efforts will be conducted in consultation with the Trust FPO and NPS staff and will also follow NPS *Preservation Brief 31:*

Mothballing Historic Buildings. Before the building is moved or modified, the building will be documented in its existing setting and context in accordance with the HABS and HALS standards. The ground floor of Building 201 will also be subject to salvage treatment. The temporary storage location of the top floor is still under consideration. The storage and protective treatment, including monitoring, for Building 201 will continue throughout construction; the replacement and rehabilitation of the upper story of Building 201 will occur after construction is completed.

9.3 DECONSTRUCTION AND SALVAGE

According to PA Stipulation III.A.1.f, Caltrans and the SFCTA will deconstruct Buildings 204, 230, and the lower story of 201 and salvage the material in consultation with the Trust FPO.

The deconstruction and salvage will be conducted by Caltrans and SFCTA and, in consultation with the Trust FPO, will be in accordance with the *Presidio Trust Policy for Waste Minimization in Construction and Demolition* (Policy), and the Trust's *Green Building Guidelines for the Rehabilitation of Historic and Non-Historic Buildings* (draft; Presidio Trust 2002b) that require all construction and demolition projects in the Presidio to maximize recycling and salvage opportunities. The goal is to promote efficient use of resources, reduce disposal costs, and divert material from landfill by aggressively increasing reuse, recycling, and salvage practices in building construction, building demolition, and roadway construction and removal. Specific practices have been developed and will be applied as appropriate to the demolition or deconstruction of the bottom floor of Building 201 and all of Buildings 204, 230, and 670. (Building 670 will not be salvaged for its historic materials.) These policies are also applicable to the demolition of Doyle Drive and cultural landscape features that include roadways and their associated features.

In short, the Trust's policy is as follows: a building slated for demolition may contain elements and architectural features that exist in other park buildings that will remain intact. Fixtures, doors, windows, or wood flooring may be useful in future projects. Saving these may preserve style or time-sensitive items for reuse. Any demolition should be carefully assessed for materials salvage and recycling opportunities. Deconstruction, a process by which a building is taken apart and materials are carefully removed and sorted, is preferable to a mechanized demolition. Deconstruction can yield high-quality timbers, reusable windows, flooring, and other materials. The buildings contain high-quality materials such as old-growth wood that are no longer available. These materials will be treated as commodities and not waste products.

The BETP only considers the application of these policies regarding historic materials and their salvage. The method of deconstruction of elements of the Presidio that contain non-historic materials or historic materials that have been deemed not appropriate for salvage is not within the purview of this document or considered mitigation as it relates to the PA and Section 106.

9.3.1 Buildings 201, 204, and 230

As previously stated, the ground floor of Building 201 (Figure 5) will be deconstructed and materials deemed appropriate for salvage will be salvaged; the top floor of the building will be moved, temporarily stored and protected, and replaced on a new foundation in approximately the same location as it stands today in an effort to preserve the streetscape and the relationship between the road and building, and rehabilitated to the Standards. Buildings 204 and 230 will be evaluated for salvage opportunities then completely deconstructed. Buildings 204 and 230 are depicted in Figures 6 and 7.

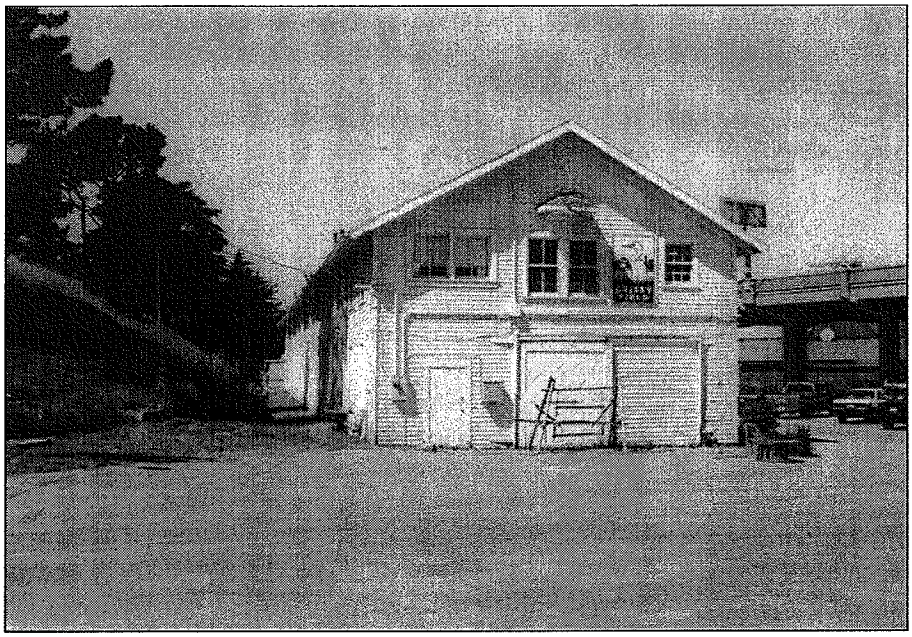

FIGURE 6. BUILDING 204, FACING WEST

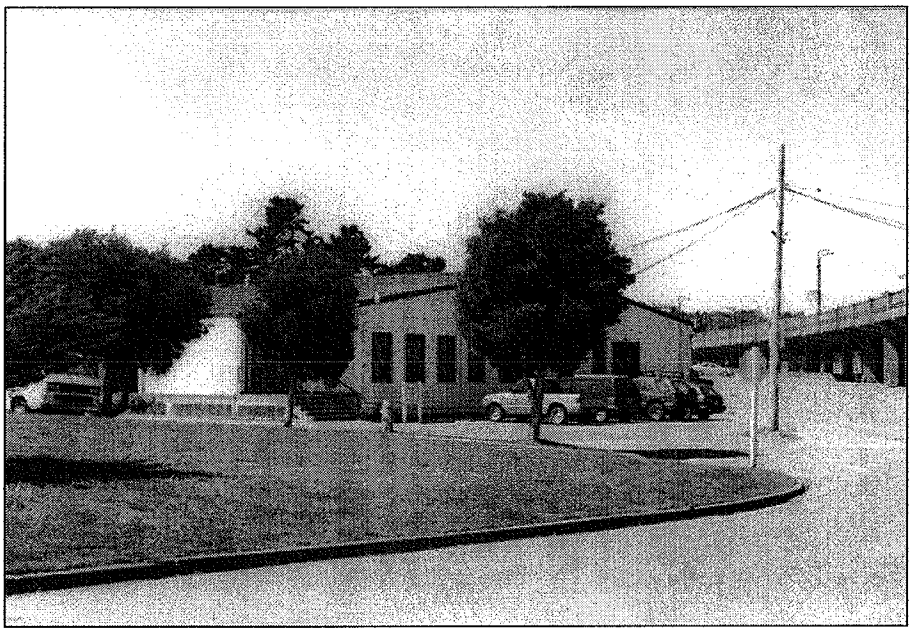

FIGURE 7. BUILDING 230, FACING WEST

Prior to deconstruction, HABS recordation to the level determined by the NPS Pacific West Regional Office will be completed for these three buildings, as well as building 670. Additionally, for Building 201, since the top floor will be saved, an HSR will also be completed. The HSR will focus on both the condition of the upper floor to inform stabilization techniques for moving and the thorough examination of the historic material on the ground floor in order to inform decisions regarding salvageable materials.

Both the HABS and the HSR will also help to inform how best to protect the upper floor during the demolition of the old Doyle Drive and the construction of the replacement facility.

Under consultation with the Trust FPO and Presidio Salvage Crew and prior to any demolition activities, the materials to be salvaged will be selected, a demolition contractor will be selected, and a location for the storage of the materials will be determined. The Trust will retain ownership of all materials deemed salvageable. All materials not salvaged will be the responsibility of the demolition contractor who will follow all Presidio policies for waste minimization in construction and demolition. The handling of the materials not salvaged is not to be considered mitigation as it pertains to this treatment plan or under Section 106.

Once deconstruction has commenced, Caltrans and SFCTA will record all salvaged material. Working with the Trust FPO and Salvage Crew, documentation will include what the material is, where in the building it was located, and what its anticipated use will be. A temporary staging/sorting area for the removed materials will be placed adjacent to the buildings to sort and record the removed materials. The deconstruction contractor will be responsible for carefully removing loose paint, containing the lead-based material as hazardous waste, and disposing of it accordingly, following the guidelines defined in the Trust's *Lead-Based Paint Management Plan* (Presidio Trust 2008). Once deconstruction for salvage is complete, the salvaged materials, which are the property of the Trust, will be removed to a location selected by the Trust. At which time Caltrans and the SFCTA will have no other responsibility for or involvement with the material. Future use of the materials will be determined by the Trust and may be in the repair, restoration, or rehabilitation of similarly designed or constructed buildings or landscape features, or they may be donated or sold for the repair, restoration, or rehabilitation of historic buildings and landscape features not on the Presidio property. Because the Trust will retain ownership, the proceeds from any sales will also go to the Trust. Hazardous materials, such as lead-based paint or asbestos remaining on any of the salvaged materials will be the responsibility of the Trust; all other hazardous materials will be the responsibility of the demolition contractor to dispose of appropriately as required by law.

9.3.2 Building 670

The Trust FPO has deemed that the salvage of the materials from this small reinforced concrete chemical warehouse (Figure 8) is impractical due to the construction type and unnecessary due to the ubiquitous nature of the material. Therefore, the disposal of the materials is not considered mitigation under Section 106. The building will likely be demolished and the materials disposed of according to the Trust's Policy for the Waste Minimization in Construction and Demolition.

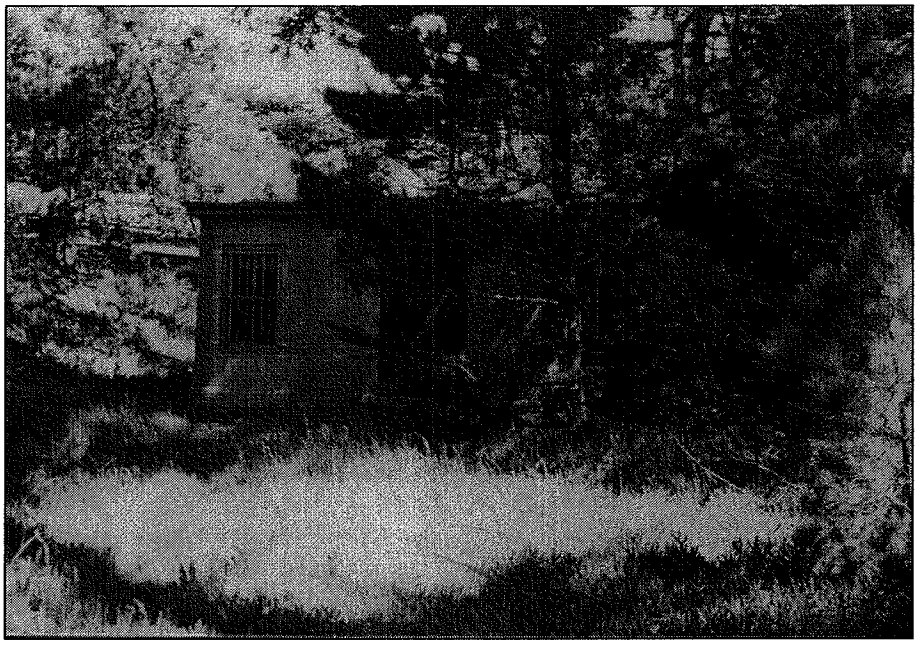

FIGURE 8. BUILDING 670, FACING NORTHEAST

9.3.3 Doyle Drive

As stated in the PA, after the facility has been recorded in accordance with the appropriate level of documentation as determined by the NPS HAER program, should any elements be identified by the Golden Gate Bridge Highway and Transportation District (GGBHTD) as desired for preservation and/or reuse, they will be salvaged. As with Buildings 201, 204, and 230, loose paint that contains lead will be removed, contained, and safely disposed of by the contractor; any well-adhered paint remaining on any salvaged portions of the bridge will be considered part of the salvaged material and will be the responsibility of the GGBHTD. Because Doyle Drive will continue to be used by the traveling public and the light standards, a contributing element of Doyle Drive, continue to deteriorate, they will be replaced on an as-needed basis as public health and safety require, prior to the demolition of the facility. Because any removed standards will be significantly deteriorated, the GGBHTD has declined the offer of these objects for use on the Golden Gate Bridge. If an appropriate recipient is not located, they will be disposed of properly.

Although the Architectural Criteria specifies that the new Doyle Drive be designed to have visual continuity with the Golden Gate Bridge, the use of salvaged historic materials is not included in the criteria.

9.3.4 Streets and Landscape Features

The surveys and recordation of cultural-landscape features as part of the HALS documentation will identify any specific historic features suitable for consideration for reuse for post-construction restoration. The Trust FPO and Trust landscape architects and planners will identify specific trees or other plants that will be removed by the Undertaking and that can be salvaged, moved, and/or transplanted. As with the buildings, any plants or other landscape features, including hardscape materials, that are salvaged will be recorded and stored appropriately to maintain and protect them for the duration of the project. These historic materials will remain the property of the Trust; however, SFCTA and Caltrans will be responsible

for the survival of the plant material, as feasible. The selection of these materials will take into consideration the Architectural Criteria and the Presidio's Vegetation Management Plan. The removal of any material not deemed worthy of salvage will be the responsibility of the demolition contractor and will likely follow the Trust's policy for waste minimization in construction and demolition. All landscape material, whether or not for salvage, will be removed carefully to ensure that no other historic resources are damaged during the demolition.

Excavation for the Doyle Drive project may also uncover historic hardscape materials, such as brick or cobblestone, once used for paths, roads or stairways. Should any such features be uncovered, they will be subject to recordation as specified in the ATP. Work in the area will stop to allow for survey and documentation of the historic features. If the material is subject to demolition or other disturbance, the Trust FPO and Trust Salvage Crew will be given the opportunity to select material for salvage. Should any material be selected for salvage, it will be the property of the Trust and the Trust's Policy for salvage will be followed.

9.3.5 Process

In consultation with the Trust FPO and Trust Salvage Crew, property-specific demolition plans will be developed for each of these properties. These plans will be developed after the recordation documents, HSRs, and condition assessments are completed so that the demolition plans can incorporate any relevant data from these studies. This information will then be incorporated into the MIP. The MIP will schedule the specific tasks required for the preparation, execution, and oversight of demolition. Refer to Appendix C for a map indicating the location of these buildings.

9.4 POST-CONSTRUCTION CONDITION ASSESSMENT AND RESPONSE TO INADVERTENT DAMAGE

PA Stipulation III.A.1.j states that, following completion of construction of the Undertaking, Caltrans and the SFCTA will conduct post-construction conditions assessments of specific buildings and the cultural landscape that were previously identified as contributors to the PNHLD, and were assessed prior to construction.

As previously discussed, several buildings will be subject to pre-construction condition assessments to establish baseline conditions. These buildings will be protected by various means throughout construction, which are addressed earlier in this treatment plan. Also previously defined is the procedure to be followed should any building be inadvertently damaged during construction (see Section 7.4.2).

After construction is complete and following all construction-related clean-up activities, a final inadvertent-damage assessment will be conducted for all properties that were subject to pre-construction conditions assessments. The findings will be documented and, should any damage be discovered, the extent will be assessed and corrective measures will begin with careful consideration of the appropriate kind of treatment, in consultation with the Trust FPO, NPS–Golden Gate, and the SHPO, using the Standards and in accordance with the management policies of the Trust and NPS. Caltrans and SFCTA will submit plans to the Trust FPO and NPS–Golden Gate for review and approval; the plans will be transmitted to FHWA who will submit them to SHPO for 30-day review and concurrence. Selection of individuals or contractors to carry out the repairs will follow the in-place selection procedure defined earlier. Repairs will be scheduled and carried out in a timely manner.

This treatment does not apply to buildings, structures, objects, sites, or elements of the Presidio landscape that are not contributors to the PNHLD or are otherwise not considered to be a historic property.

The assessment will also provide valuable information for future projects regarding the efficacy of protective measures undertaken in proximity to specific construction activities.

9.5 REEVALUATION OF RESOURCES AND UPDATING NATIONAL HISTORIC LANDMARK NOMINATIONS

In accordance with PA Stipulations III.A.1.k, and l, Caltrans and SFCTA, in consultation with the Trust FPO and NPS–Golden Gate staff regarding the PNHLD and the NPS–Golden Gate staff regarding Golden Gate Bridge, will update the existing NHL nominations for these properties within six months following completion of the Undertaking, "Completion" includes the rehabilitation of all landscape features, structures, and buildings as specified in this BETP. Stipulation III.A.1.j states that, after the completion of the Undertaking, all altered contributors to the PNHLD will be reevaluated pursuant to NRHP criteria to assess whether they retain sufficient historic integrity to convey their significance.

Both nomination updates will follow CFR, Title 36, Part 65, for the National Historic Landmarks Program, and guidance found in the National Register Bulletin, *How to Prepare National Historic Landmark Nominations*. The reevaluations stipulated in the PA will be undertaken as part of the NHL update.

9.5.1 Presidio National Historic Landmark Nomination

The Presidio was listed as a National Historic Landmark in 1962; in 1993 a nomination was prepared for the Presidio as a National Historic Landmark District. The Trust has updated the 1993 nomination to include Cold War resources; the update is currently undergoing the approval process and should be approved no later than April 2010. With the proposed Undertaking, there will be alterations to the contributing features along the Doyle Drive corridor that will occur after the update. Additionally, there may be other areas within the PNHLD that are altered for the Undertaking as a result of other resource mitigation, most likely biological mitigation. The purpose of updating the existing documentation is to survey resources that have been altered as a result of the Undertaking. This updated documentation is not intended to replace the existing nomination or subsequent updates, but to augment them.

Upon completion of the Undertaking and the rehabilitation of all resources within the PNHLD, Caltrans and SFCTA will survey the altered portions of the PNHLD, including buildings, structures, objects, circulation systems, hardscapes, and landscapes. Portions of the Presidio that are within the focused architectural APE that are altered independent of the Undertaking between the completion of the 2009 update and the Undertaking will be included in the update. This is contingent upon the Trust FPO and NPS–Golden Gate staff providing Caltrans and SFCTA with the necessary information and access to records and the resources themselves, regardless if the alterations are undertaken by the Trust, NPS, or Presidio tenants. Additionally, NPS–Golden Gate will make available the NPS-Golden Gate Archives, if needed. Although an updated form will be submitted, Table 13 identifies the sections of the nomination that will be updated.

TABLE 13: POST–DOYLE DRIVE CONSTRUCTION NHL UPDATE

Nomination Form Section	Action
1. Name of Property	No change
2. Location	No change
3. Classification	Number of contributing/noncontributing resources may change
4. State/Federal Agency Certification	Not applicable
5. National Park Service Certification	Not applicable
6. Function or Use	No change
7. Description	The updated description of resources will only include those altered by the Undertaking, and those that have been altered since the prior documentation that are within the focused architectural APE Contributing and noncontributing resources will be clearly identified and listed
8. Statement of Significance	No change
9. Major Bibliographical References	Additional references as needed
10. Geographical Data	No change
11. Form Prepared By	Change accordingly
12. Additional Documentation	Maps: It is not anticipated that the boundaries will be altered, so a separate USGS map with the boundaries and UTM coordinates marked will not be provided. However a plan view of the new Doyle Drive with locations of altered resources will be provided, keyed to photographs Photographs: Contemporary 8x10 black and white photos of contributors will be provided. These photos will be visual representations of the historic integrity and significant features of the property, and illustrate the qualities discussed in the descriptive section. Representative views of noncontributors will also be included Photographs of streetscapes, landscapes, as warranted, and an aerial view of the Doyle Drive corridor will also be provided Slides: Because this is not a nomination, but an update, slides will not be included

CFR 36 Part 65 specifies that, for resources in California, the National Park Service Pacific Western Regional Office and support office staff that administers the NHL program be consulted regarding NHL nominations or alterations. Upon completion of the update and approval of the documentation from the Trust FPO and NPS–Golden Gate staff, Caltrans and SFCTA will provide an electronic version and printed version, as well as printed photographs and negatives to the appropriate NPS Pacific West Regional Office staff. Caltrans and SFCTA will provide changes to the documentation should the NPS Pacific West Regional Office staff who administers the NHL request them.

9.5.2 Golden Gate Bridge National Historic Landmark Nomination

PA Stipulation III.A.1.k requires that FHWA provide NPS–Golden Gate with an updated NHL nomination of the Golden Gate Bridge, to which Doyle Drive is currently a contributor. The updated nomination will occur after the completion of the new Undertaking and will take into consideration the effects of the loss of the original Doyle Drive to the Golden Gate Bridge. Currently, in conjunction with a proposed installation of a suicide barrier, an updated evaluation of the bridge (not including Doyle Drive) is being prepared by the GGBHTD, which should take into consideration alterations, seismic retrofits, and ongoing maintenance that the bridge has undergone since the completion of the previous nomination. If the installation of the suicide barrier is determined to be an adverse effect, and mitigation consists of updating the 1984 HAER of the bridge, Caltrans and SFCTA will use the updated materials in the preparation of the NHL nomination update, if available. Caltrans and SFCTA cannot guarantee that additional information required from GGBHTD will be accessible. If the addition of the suicide barrier does not initiate updated HAER photographs, Caltrans and SFCTA will review the 1984 photographs to see if alterations have visibly changed the photographed components, and update the photographs accordingly.

Caltrans and SFCTA will provide the NPS–Golden Gate with the updated NHL nomination, including all available information, in both printed and electronic form but will not proceed with the approval process. Should the NPS Pacific West Regional Office staff that administers the NHL request that changes to the forms or any other documentation be made after approval by NPS–Golden Gate staff, it will be the responsibility of the NPS–Golden Gate staff to make the requested changes.

9.6 REHABILITATION OF BUILT ENVIRONMENT AND CULTURAL LANDSCAPE FEATURES

Pursuant to PA Stipulation III.A.1.i, Caltrans and SFCTA will rehabilitate the upper story of Building 201 and rehabilitate and/or restore cultural landscape features in consultation with the Trust and NPS–Golden Gate and follow the Standards, NPS Preservation Brief 36, *Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes* (National Park Service 1994), and the Architectural Criteria, as appropriate. The Doyle Drive corridor totals about 115 acres of the 1,491-acre Presidio cultural landscape. Approximately 86 acres are covered with buildings, roads, paved areas, ornamental landscape, lawn, and isolated trees and shrubs. The remainder is covered with natural vegetation.

9.6.1 Building 201

As previously specified, Building 201 is the only building expected to be rehabilitated as a result of the Undertaking. Rehabilitation, according to the Secretary of the Interior's Standards, is the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values. Building 201 will be significantly altered, as it will be reduced from a two-story building to a single-story building, so will consequently loose much of its historic

material, design, and workmanship. The primary objective of the rehabilitation is to preserve the Halleck Street streetscape and the relationship between the street and the building. The rehabilitation will follow the Secretary of the Interior's Standards with this goal in mind. Additionally, the rehabilitation will include upgrading it to required local building codes and following the Trust's standards of seismic safety and accessibility.

Prior to any construction activity, including the temporary removal of Building 201, the building will be recorded to HABS standards and an HSR will be prepared. In addition to recording the building as it currently stands in its entirety, these documents will identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and need to be retained in order to preserve that character. Once these features are defined, and the project plans and specifications for the raising of Halleck Street are completed, the rehabilitation plans for Building 201 will be developed. For Building 201, its setting, defined by its relationship to Halleck Street, is an important character-defining feature. The design of Halleck Street will be influenced by several factors, both functional and aesthetic; the Architectural Criteria established for the Main Post Bluff Landscape Unit includes reestablishing the historic connection between Building 201's loading dock and Halleck Street. In conjunction with the NHL update that will occur after Doyle Drive is completed and the landscape rehabilitated, Building 201 will be reevaluated to determine if it has retained enough integrity to still be a contributor to the NHL.

9.6.2 Doyle Drive Corridor

Rehabilitating the historic character of the Doyle Drive corridor is only one of several issues that have to be considered when designing the replacement facility. Rehabilitation consideration includes engineering, safety, and traffic requirements, coordination with natural-resource mitigation requirements, Caltrans' planting protocols, the Trust's Vegetation-Management Plan, and other aesthetic and functional criteria. As previously discussed, architectural criteria have been developed to provide guidelines to mitigate the loss of the existing Doyle Drive, to provide the driver with a continuous and unified visual experience from the north abutment of the Golden Gate Bridge to the east end of the Parkway, and to integrate the roadway into the existing Presidio landscape and minimize its visual impact to pedestrians and other Presidio users. Another objective was to retain or improve the terrestrial-level connection between the portions of the Crissy Field Planning District that extend both north and south of Doyle Drive, as well as the connection between Crissy Field to the north and the Main Post and Quartermaster/Letterman Planning Districts to the south of the new Doyle Drive. Consequently, the ability for the facility and its relationship with the roadway corridor to be rebuilt and rehabilitated, respectively, according to the Standards, is limited.

9.6.3 Cultural Landscape

Other than the demolition of Doyle Drive itself, the greatest adverse effect of the Undertaking to the PNHLD is to the cultural landscape. Consequently the cultural landscape will undergo the most extensive rehabilitation. Rehabilitation of a cultural landscape, according to the Secretary of the Interior's standards, allows the replacement of extensively deteriorated, damaged, or missing features using either traditional or substitute materials. Rehabilitation makes possible efficient contemporary use through alterations and additions. According to the *Guidelines for the Treatment of Cultural Landscapes,* (National Park Service 1996), a goal of rehabilitation is to establish a reasonable balance between improved environmental conditions and the preservation of historic features, materials, and finishes. The Architectural Criteria, which can be found in Appendix B, addresses the character-defining features of the cultural landscape along the existing Doyle Drive corridor in conjunction with the alignment of the new

Doyle Drive and its associated alteration of the existing landscape. Specific treatments and designs are currently being developed, and the process described in Section 8 is ongoing.

As previously discussed, for the purposes of establishing architectural criteria and planning rehabilitation efforts, the cultural landscape has been divided into planning units based on location and the construction type of the new facility. These units are not independent from one another. Cultural landscape rehabilitation plans will be organized in the eight units; identified historic cultural-landscape features in each of these landscape units that will be addressed in rehabilitation plans will include, but not be limited to, to those listed in Table 14. For a more in depth discussion and exhibits, please see the Architectural Criteria in Appendix B.

TABLE 14: LANDSCAPE UNITS AND PROPOSED PLANTINGS/TREATMENTS

Landscape Units and Existing Conditions	Landscape Units Proposed Plantings/Treatment
West Parkway Existing landscape features: Runs through the historic forest which blocks views to the south; views north consist of the San Francisco Bay and the Golden Gate Bridge	Trees that have been removed from the historic forest for construction will be replanted in a palate consistent with the Presidio Vegetation Management Plan. Tree species with a maximum mature height of 30 feet will be planted to protect the view from Fort Scott and to avoid tree failure onto Doyle Drive Vegetative screen will be planted on both sides of the parkway. Vegetation in the landscape unit will be small evergreen trees and large evergreen shrubs to provide screening
Veterans Boulevard Interchange Existing landscape features: Densely vegetated coastal bluff lines with eucalyptus, cypress, Monterey pine trees, and shrubs; no views to the bay; limited views of Presidio built resources due to tree screen	Trees that have been removed from the historic forest will be replanted in a palate consistent with the Presidio Vegetation Management Plan Replant the portion of the bluff newly exposed by the removal of existing northbound Veterans Boulevard connection to Doyle Drive southbound. Plantings will be low to restore the historic character-defining views from the batteries Screen the structure from Cavalry Hollow with plantings
High Viaduct Existing landscape features: An elevated structure that heads into a small wooded area on the eastern bluff where it becomes an at-grade structure. On the bluff is the National Cemetery and Monterey pine forest to the south and woody/shrubby vegetation to the north	The focus of the design of the structure itself is to preserve or enhance the views, thereby keeping the structure as unobtrusive and visually light as possible and be subordinate to the Golden Gate Bridge Battery Blaney Road will become a multi-use trail Vegetation within this landscape unit will be similar in scale and design to West Parkway
Battery Bluff	Restore the views from the batteries to the bay by

Landscape Units and Existing Conditions	Landscape Units Proposed Plantings/Treatment
Existing landscape features: Views of the National Cemetery to the south, and over Crissy Field toward the bay to the north. Battery Blaney Road and the bluff are historic landscape features	removing invasive plants and trees from the bluff. Bluff planting will be low Batteries' association with Battery Blaney Road will be restored Vegetation within this landscape unit will be transitional to incorporate Presidio Promenade
Main Post Parkway Existing landscape features: This area is more open from a vegetation standpoint than previously discussed areas; the Main Post is a more developed portion of the Presidio	Restore visual link between the battery bluff and the Main Post bluff as seen from Crissy Field. Maximize the gradient of the created bluff Screen the northern edge of the roadway and its retaining walls with vegetative landforms Vegetation within this landscape unit will be low to provide open views
Main Post Bluff Existing landscape features: This area is more open from a vegetation standpoint than previously discussed areas; the Main Post is a more developed portion of the Presidio. The treatment here is discussed separately because this is the location of the second tunnel	Restore visual link between the battery bluff and the Main Post bluff as seen from Crissy Field. Maximize the gradient of the created bluff. Bluff planting will be low in height Restore the alignment of Halleck Street; retain its historic character and scale Vegetation within this landscape unit will be transitional to incorporate Presidio Promenade
Quartermaster Existing landscape features: This area is made up of series of long, low wood-framed warehouses with minimal associated vegetation	The historic circulation patterns will be considerably altered. The retention of Girard Road curb alignment and industrial character of the Gorgas Avenue warehouses are planned. Adapt historic railroad right-of-way and fire abutments as trail Vegetation within this landscape unit will transition marsh planning to Main Post Tunnel and East Parkway
East Parkway Existing landscape features: This is where Doyle Drive transitions out of the Presidio into the residential Marina District. A significant feature is the Palace of Fine Arts	The historic circulation patterns will be considerably altered. The industrial character of the Gorgas Avenue warehouses is retained. Plantings along Gorgas Avenue warehouses will reflect their historic utilitarian character Vegetation within this landscape unit will be of a cultural nature to transition into an urban setting

9.7 PUBLIC INTERPRETIVE PROGRAM

Stipulation III.A.1.m states that Caltrans and SFCTA will develop a public interpretive program (PIP) commensurate with the significance themes for the resources affected by the Undertaking.

Public interpretation will be developed and implemented for those built-environment resources that will be adversely affected by the project. Interpretation will include materials to be used during construction, followed by the development of a permanent program that will be executed after the project is completed. The planning of the PIP will occur prior to construction, for execution during and after construction. As with the Architectural Criteria, the development of the programs will be a collaborative process between the agencies, the stakeholders, and interested parties. The process has not yet been formally initiated. The following interpretation programs will be considered; some or all may be implemented, or other programs may be developed in lieu of those described herein.

9.7.1 Coordination of the Program

Caltrans and SFCTA will oversee the development and execution of the PIP in coordination with the NPS–Golden Gate Division of Cultural Resources and Museum Management (CRMM) and appropriate Trust staff as designated by the TOP. The primary objective of the interpretation program will be to incorporate, and/or contribute to, interpretation programs being pursued by the Trust and/or NPS–Golden Gate CRMM, such as the Presidio Promenade Wayside Program, which is currently being developed. This coordination will ensure that the interpretation treatments are consistent with general agency policies and management plans and with current interpretive plans for the PNHLD. Caltrans and SFCTA will also take into account the comments and recommendations of interested parties regarding interpretation in conjunction with TOP meetings where oversight of interpretation plans are on the agenda.

The PIP will also need to be coordinated with other cultural resources mitigation activities, such as the results of the Archaeological research, and with the project design and construction schedule. The PIP will further describe the types of interpretation to be implemented for each theme, the appropriate media for interpretation, and the locations where such interpretation would be installed or take place. The interpretation element of the MIP will identify the schedule and duration of interpretation, including activities that will take place prior to and during construction to educate the visiting public regarding the cultural resources protection measures being undertaken for the project. Construction-period interpretation will also be coordinated with Undertaking-sponsored public-information efforts. Consequently, detailed plans for interpretation will be developed separately from the BETP and be scheduled in the MIP.

9.7.2 Survey and Interpretation of the Changing Landscape: Applying National Park Service's Cultural Resources Geographic Information Services Program

Based on the effects of the project on historic resources, the primary topics for interpretation will focus on the history of the development of portions of the five functional areas or planning districts through which Doyle Drive passes. The five planning districts are Fort Scott, Crissy Field, South Hills/National Cemetery, Main Post, and Letterman.

A method of study and interpretation of the resources adjacent to the Doyle Drive corridor could apply the standards and guidelines established by the Cultural Resources Geographic Information Services (CRGIS) program of the NPS. The guidelines state that, "For historic preservation and cultural resource management, accurate locational data is key to our success in learning about past building traditions, settlement patterns and past lifeways. . . . Collecting the locational data with GPS as well as basic

attribute information associated with individual features, and combining that with the power of GIS to integrate different data sources, allows preservationists to take advantage of these technologies in planning and researching cultural resources."

The program has found that combining measured drawings from HABS/HAER/HALS that depict floorplans, elevations, sections, and site plans placed in real-world coordinates using GPS, with associated photographs, documents, and survey information, and related spatial data through GIS, reestablishes the historic context of these resources and makes them an even more informative research tool. The Undertaking's resultant pre-construction research and documentation, post-construction rehabilitation documentation, combined with the collections of the Trust and NPS–Golden Gate could provide tools with which to create a progressive GIS interpretive program for the PNHLD.

Using the established planning districts, layered, aerial-type images could be created to interpret the gradual, or sometimes abrupt and dramatic, physical changes that occurred in each of these specific areas. Interpretation would not be limited to the established National Historic Landmark District's period of significance, 1776-1945; it could begin with Native American occupation, continue through the170-year period of significance, and end with the construction of the new Doyle Drive and its alterations to the landscape. Accompanied with written histories to explain the development, historic photographs, documents, and ephemera can be used to further illustrate the transformation of the landscape.

9.7.3 Construction Interpretation and Public Information

Interpretation available during construction could include signage, brochures, and other media that provide both functional and historical information about the historic Doyle Drive facility and its replacement. As previously stated, this material will be developed in conjunction with other Doyle Drive public-information efforts. This historical information will also be placed on the Doyle Drive web site, which is used to provide project information for motorists. Construction signs and site barricades directed toward pedestrians would also be developed to include historic information, as well as "Coming Soon" views and descriptions of the new facility.

A public event may be arranged to mark the deconstruction of the original facility. This event would celebrate Doyle Drive's history and its connection to the Golden Gate Bridge, perhaps arranging for parade of period automobiles to make the final trip on historic Doyle Drive.

Another consideration is a high-resolution film taken from within the Presidio at a fixed location during the entire demolition and construction of Doyle Drive. This location might be at the High Viaduct, and subsequently turned into a time-lapse recordation of the demolition and construction of this prominent feature. This film will then be given to the Trust to use in exhibits, films or other visual material displays, or archived for historical record.

9.7.4 Post-Construction Interpretation in Partnership with the Presidio Trust

Post construction interpretation will include the development and implementation of exhibits located at specific sites where public access is high, interpreting both the historic Doyle Drive facility and the replacement. Caltrans and SFCTA will implement this in conjunction with the Trust's Presidio Promenade Waysides Program, which is currently under development. The Wayside Program includes the placement of several waysides including areas within the architectural APE. Each consists of a stand supporting an enamel panel with text and graphics on a small paved area for accessibility. For example, two currently planned waysides address the historic forest, which is part of the Presidio's cultural landscape. Topics addressed are "From Grassy Hills to Extensive Forests" and one south of the stables is

titled "Managing an Aging Forest". Another important landscape feature that would benefit from interpretation is the bluff, a natural topographic feature that influenced the pattern of development in the Presidio. Other planned waysides address buildings, structures, views and other aspects of the PNHLD and adjacent historic properties. The PIP will either contribute to the planned waysides or expand the current program through the development of additional exhibits.

SECTION 10: SUMMARY AND FUTURE ACTIONS

The BETP consists of measures to avoid, minimize and/or mitigate adverse effects to contributing buildings, structures, and elements of the PNHLD cultural landscape, Doyle Drive viaducts, and the Golden Gate Bridge, that will be adversely affected by the Undertaking. It also includes descriptions of measures that will be taken to protect historic properties and to avoid unanticipated adverse effects to historic properties. The BETP establishes protocol regarding preparation of recordation and documentation to HABS/HAER/HALS standards and the preparation of HSRs. It also describes specific and appropriate levels of investigations, preparations, and treatment measures to be undertaken prior to construction, during construction and after construction. These include conditions assessments; vibration analysis; requirements for the moving, storing, shoring, stabilizing, monitoring, and rehabilitation of buildings; and the restoration of cultural landscape features and areas. Also described are provisions of architectural criteria, protection/avoidance measures, responses to inadvertent damage, and deconstruction and salvage procedures. Process protocol, including roles and responsibilities of PA signatories, is also specified.

The majority of the measures presented here are tiered activities, dependent upon one another to determine the best course of action, particularly regarding protection and rehabilitation. For example, avoidance/protection measures are dependent upon both project plans and conditions assessments. Project plans are not yet detailed enough to adequately inform the best means of protection; conditions assessments have not yet been undertaken to inform as to the specific vulnerability of the resources. To address this, Caltrans and SFCTA will prepare the MIP, which is the next phase of work for the TOP.

SECTION 11: BIBLIOGRAPHY/RESOURCES

This bibliography is also to be used as a list of references considered to be the professional standards for mitigation activities prescribed in this treatment plan. It includes guidance documents by the National Parks System as well as those recognized as preservation-industry standards for the treatment of historic properties.

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APPENDIX A. MITIGATION MATRIX

APPENDIX B: ARCHITECTURAL CRITERIA

APPENDIX C: MAPS

Appendix D: Existing HABS/HAER/HALS and HSR Documents for Properties within the APE

Document	Resource Name	General Location
HABS CA-1100	Commandancia / Officers Club, Moraga Av.	Presidio
HABS CA-1114	Presidio – Historic images and drawings	Presidio
HABS CA-1173	Barracks	Presidio
HABS CA-1174	Stables	Presidio
HABS CA-1212	Gun Emplacements	Presidio
HABS CA-1213	Powder Magazine, Graham St.	Presidio
HABS CA-1214	Officers' Quarters, Funston Av.	Presidio
HABS CA-1215	General Pershing's House , Moraga Av.	Presidio
HABS CA-1216	Old Station Hospital, Funston Avenue & Lincoln Boulevard	Old Station Hospital
HABS CA-1217	Chapel of Our Lady, Moraga Av.	Presidio
HABS CA-2269	Nurses Quarters, Girard Road & Lincoln Boulevard	Letterman General Hospital
HABS CA-2405	Cavalry Stables, Cowles Street, between Lincoln Boulevard & McDowell Street	Presidio
HABS CA-2618	Warehouse, Livingston St.	West End of Crissy Field
HABS CA-2619	Storehouse Type, Maudlin Street	West End of Crissy Field
HABS CA-2620	Enlisted Men's Mess Hall, Maudlin Street	West End of Crissy Field
HABS CA-2621	Recreation Building Type	West End of Crissy Field

Document	Resource Name	General Location
HABS CA-2622	Post Exchange, McDonald Street	West End of Crissy Field
HABS CA-2623	Enlisted Men's Barracks Type, between Pearce & Maudlin Streets	West End of Crissy Field
HABS CA-2624	Storehouse & Administration, Allen St.	Crissy Field North cantonment
HABS CA-2625	Enlisted Men's Mess Hall	Crissy Field North cantonment
HABS CA-2626	Recreation Building, Jauss St.	Crissy Field North cantonment
HABS CA-2627	Post Engineer's Headquarters Office	Crissy Field North cantonment
HABS CA-2628	Plumbing Shop	Crissy Field North cantonment
HABS CA-2629	Warehouse & Auto Shop	Crissy Field North cantonment
HABS CA-2630	Electrical Shop	Crissy Field North cantonment
HABS CA-2631	Paint Shop	Crissy Field North cantonment
HABS CA-2632	Carpenter's Shop	Crissy Field North cantonment
HABS CA-2633	Letterman General Hospital, Building No. 27	Letterman Hospital Complex
HABS CA-2634	Letterman General Hospital, Building No. 12	Letterman Hospital Complex
HABS CA-2635	Post Exchange, Thornburg Road	Letterman Hospital Complex
HABS CA-2636	Flammable Materials Storehouse SM-38, Gorgas Av vicinity	Letterman Hospital Complex
HABS CA-2637	Motor Vehicle Shed Type	West End of Crissy Field
HABS CA-2638	Flammable Storage Building Submarine Mine Depot, Long Av.	Fort Point Vicinity
HABS CA-2671	WWII Mobilization Bldgs Area B	West End of Crissy Field
HABS CA-2672	Crissy Annex Area A: Marine Drive (on North), parking lot (on East), Lt. Jauss Street (on South), Corporal Zanovitz Street (on West)	

Document	Resource Name	General Location
HABS CA-2673	District Engineer's Shops & Yard	
HABS CA-2715	Tennis Court, 1147 Sternberg Rd.	Letterman Hospital Complex
HABS CA-2716	Tennis Court, 1052 General Kennedy Av.	Letterman Hospital Complex
HABS CA-2717	Officers' Vehicles Garage, 1055 General Kennedy Av.	Letterman Hospital Complex
HABS CA-2777	Ammunition Storage, Old Mason St. at Crissy Field	Crissy Field
HAER CA-155	Water Treatment Plant, East of Lobos Creek at Baker Beach	Water Treatment Plant
HAER CA-31	Golden Gate Bridge	GG Bridge, spanning mouth of San Francisco Bay
HABS CAL,38-SANFRA,4-	Fort Point	U.S. Highway 101, San Francisco, San Francisco County, CA
HSR	Palace of Fine Arts	Northeast of Presidio, Marina Drive

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http://memory.loc.gov/ammem/collections/habs_haer/